

Sources of the Communicative Body

**A thesis submitted in fulfillment of the requirements for the degree of Doctor of
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Sources of the Communicative Body

i. Abstract:

This study provides evidence for the warranted assertion that classroom practices will be enhanced by awareness of how non-linguistic modalities of the face, hands and vocal intonation contribute to cohesive and cooperative strategies within social groups. Both the history and observations of non-linguistic communication presented by this study suggest that visual, kinesic, and spatial comprehension influence social fields and common spaces. This knowledge has been submerged and marginalized through history. At the same time, through time, despite this submersion and marginalization, interrelational and intrarelational synchrony and dis-synchrony, centered on and by the communicative body, occur in social settings in ways that can be considered from both historical and observational perspectives. Building on recent theory by Damasio, Donald, Noddings, Grumet, Terdiman, and Nussbaum, the historical concepts and classroom observations presented here evidence that social values such as caring, loyalty, and generosity are sometimes understood, implicitly and explicitly, through the exchange, perception, and interpretation of non-linguistic signs. By understanding how the face and hands and rhythm and pitch of the voice create cohesive and cooperative social values in learning spaces -- separate from racial, ethnic, and intellectual differences -- this investigation recovers a submerged knowledge in order to offer a new logic for understanding social process. In turn, this new logic hopes to further transformational practice in the learning and teaching arts and sciences.

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Chapter 1. Introduction

I don't think you ever finish learning gesture. It is the way you live. It is an art form which evolves and centers on you and your inner self. I don't think anyone can ever call themselves a master. If you want to know all you can about intonation and gesture, and interpret the notation and the passions well, you keep going (Fieldnotes January 19, 2006).

The void must be that in which body is placed (Plotinus 1952, p. 813)

Let us think for a moment of a traveler who, when arriving in a foreign land, finds a culture whose language is syntactically the same as her native one but with a vastly different vocabulary.

Would you like gopply? Flark, it's not a dop at all.

It would not take long before our traveler, working from both context and hunger, realizes that 'gopply' means something-to-eat and 'flark' means please and 'dop' means problem. None-the-less, on hearing the above sentences, there is a sense of dislocation and confusion, of vulnerability, of amusement and creative potential. Our young traveler may indeed have the sense of entering a place where the way she thinks is going to be rearranged.

I know a Chag from Tranten who knows a good deal about Rem-kozo. Would you like to know about Rem-kozo?

In this second example as well, the signs follow syntactic patterns, but their content is comprehensible only through study. We can imagine our young traveler sliding sideways into a distorted semiotic landscape. She might experience intense vulnerability, frustration, amusement, a sense of wonder, and perhaps creative freedom. In short, as she realizes the world

is made up of new meanings, her own thinking begins to change, the ways she relates to the world and the people around her will change as well. In part, I believe this analogy of a shifting linguistic landscape is helpful for two reasons. On the one hand, the analogy defines, in some way, the landscape we currently live in, a semiotic world where the ways we make meanings are shifting and the meanings themselves are shifting at increasing rates. In another way, the above analogy can also serve to answer the question: what is learning?

Learning involves in part the relationship of new meanings to forms that exist in the learner's consciousness. By linking new meanings to the patterns we hold in memory, attention, and will, a learner's cognition facilitates change through the acquisition of new vocabularies and concepts. Since human beings are curious and like to learn, the analogy might describe all of us: a six year old coming in contact with print media; a middle aged man learning to cook; a veteran teacher learning new theories of social learning; a sixty-five year old widow learning a software application. We learn and acquire cultural patterns through which we link our old 'selves' to new meanings and interpretations -- new sensations, a new recipe, another person. Our young travelers enter new worlds by choosing to risk enlarging their foundational patterns, to risk marrying the vocabularies of their social and emotional lives to new knowledge. They begin to read, or learn how to communicate by email, or learn how to bake. Of course there are many social, economic, and political relations at work in the discourses themselves. There are contingencies in how the individual interprets both the old patterns and the new meanings. Here, I simply want to suggest this analogy of the young traveler encompasses, to some degree, the inner relations and cognitive processes at work in learning. I do this in order to come to another question: What is the teacher's role in this process?



Above: "All right, just fix his head" (Vas 1969).

My formative years as a teacher came late in the century, in the decade just after "A Nation at Risk" (NCEE 1983) had worried educators into thinking we were not doing our jobs. While it is common in the literature to see "A Nation at Risk" as a myopic attempt to constrain and standardize curricula across cultures, which on one level it is, I believe "A Nation at Risk" is a report that also points up that schools and education have become a part of the cluster of social relations in a powerful way. It is curious to think of a report such as "A Nation at Risk" in light of Marx's definition of social life: "The mode of production of material life determines the social, political, and intellectual life process in general" (Marx 1904, p. 11). The authors of "A Nation at Risk" seem to suggest that the classroom is a place where the 'mode of production of material life' is replicated. Students should be taught with an eye on productive activities, and learning skills should be determined by the country's economic and political agendas. But a classroom is also a place where social phenomena can be separated from 'modes of production' and related to many other social processes that include production, reproduction, new meanings, socialization, family structure, etc. Perhaps what makes education so politically controversial is that schools can be and often are point of resistances to economic processes and economic reductivism in general.

When I began to teach, in my youthful enthusiasm, I took jobs wherever I could: literacy programs in the ghettos, summer reading camps in New Hampshire, adult education programs

in Cambridge. With time, I settled into a Boston city college with its roots in a provincial past. The boxy, fortress-like building on the shore of the dirty harbor had been a secretarial school and a junior business college. Failing that, it had become a kind of transitional, liberal arts school for poor kids trying to get out of the neighbourhood. It also drew a smattering of international students. The classrooms were cavernous and high-ceilinged. They had great acoustics, broken windows, and corners with peeling paint. Some of the faculty and administration seemed as stuck as the windows; some stuck open and some stuck closed. In those first classes I taught, the students became my windows, windows not only on how music and poetry and words work in the world, but on how interlocked and interconnected the world had become. We all came from a wide variety of classes, cultures, ethnicities, and backgrounds. Some of the students were the bright poor from the neighborhood who could not afford a break; others were international students looking, eventually, to enter a bigger school. There were dropouts returning from the drop; restarts; adults; punks; goths; and the B-boys and B-girls who spent weekends on the hop. I had been entrusted with the under-resourced students of the working and lower middle class from America and Korea and Italy and Israel. We were from broken homes and had varied repertoires of words, facial expressions, modes of expressions, and ways of being.

In these settings, if the nation was at risk, it seemed to me the risk was coming more from the marketplace than educators, education, and educational theory. Our students had learned a lot through images and popular music in the culture market and the ‘scattering of facts’ presented by the media. The Nintendo kids had been taught that their teachers would not tell them what they needed to know. And the students, in turn, trained themselves to get knowledge—good, bad, and ugly—from video, television, film, music, advertisements, and the like. Students who used to know something of William Butler Yeats’ “The Second Coming” were more apt to bust a rhyme about ‘gettin’ jiggy with it’. These changes and the educational difficulty encountered through them might simply reflect the intense commercialization of our world. Our students might simply be speaking a different (commercial) language than their teachers. At the same time, settling on teaching through ‘visual culture’, or acknowledging that ‘literacy has become literacies’, seems to ignore another complexity: there are differences even with visual culture. I learned this (of course) from a blind man who taught at a school that was peopled with both the visually impaired with the sighted:

I used to watch television and used it like a radio. I could tell what brands were advertised and who was saying what. But around the time of “The Deer Hunter” – when was that, 1979? 1980? – the dialogue dropped out. The Deer Hunter was the first one. I couldn’t tell what was going on because no one was saying anything. Full Metal Jacket and Platoon, the other Vietnam movies, they had dialogue, but The Deer Hunter changed all that. After that, I began to notice that advertisements and other television programs began to just use just visuals. I couldn’t tell what was going on and have pretty much stopped watching (Fieldnotes March 3 2006)

As the students informed by the shifting semiotic landscape arrived in the classroom, I had to face the fact that I had more than a gap in my knowledge of how to teach and of how people learn. I hadn’t formed any real sense of how humans learn in relation to music, for example, or with a smile or the nod of their head. I had no knowledge about different types of spatial intelligence or emotional styles. In short, I had to go back to school. What I began to investigate were the material events of communication—the organic, kinesic channels which structure empathic experience. I began to consider the hills and valleys of the human voice, the tones and pitches, the rhythmic fluctuations and stress patterns of sounds that underscore words. I began to research facial expression and gesture. In beginning to research this field, I became a young traveler again, formed by risks and questions:

- Has anyone written a history of facial expression? Is there a grammar of non-linguistic communicative values of the body? When it comes to learning through our bodies, through intersubjective modalities, what is not false?

When I began to dig around the history of our understanding of the communicative body, I discovered philosophers and artists and educators have long struggled with the way in which the body creates interpretation of sign. However, because I studied in the wake of the 20th century, linguistic analysis has been seen as dominant, and the ‘words in our heads’ largely viewed as what constitutes learning and communication. However, the study of language and the structures of languages left out theories of other codes and social knowledges. I began to see the communicative body as an example of Foucault’s ‘submerged knowledge’ (Foucault 1982). In his myriad of studies and archaeologies, Foucault taught us knowledge is employed and deployed by power relations and institutions of knowledge, and the body is both the center of these relations as well as a silent partner. When we come to the body’s place in learning and

communication, we are all akin to the young traveler in the above analogy: our syntactic structures must make way for new meanings; for mirror neurons and body-thought, for new awareness of how the body-thought fills the common spaces between us. At present, the epistemological body is internalized, social, inchoate and non-discursive. It is a form of acting, interpretation, and living in the world. Awareness and understanding of these issues through history and in classroom practice bring us to a horizon where the relationship between the materiality of the body and the symbolic power of language—its symbols, signs, discourses and practices—generates new orientations to social fields and learning spaces. Post-structuralist, post-colonial ways of seeing the world have opened the ‘closed system’ of linguistic analysis. Language has begun to be seen as a ‘superstructure’ whose study has submerged a signifier (the body) and, in doing so, obscured codes we have begun to know are there.

- Why are the communicative values of the human body absent from teacher training and theories of learning? May we outline the contours of a semiotics of instruction? Do the social values and empathic spaces oriented on and by the face and hands and the majestic juice of the human voice facilitate learners as they take the risk of encountering new vocabularies and concepts?

The recognition of problems with language and representation, as old as Plato, are a long, foundational thread in the history of skepticism and philosophical investigations of reality. As one example among many, in 1605, writing through one of history’s bleakest characters, Shakespeare outlines a problem with representation in the first scene of *The Tragedy of King Lear*. Lear’s loyal and loving daughter, Cordelia refuses to use language in the deceitful way that her sisters do. “I will love and be silent”, she says, setting in motion a tragedy so bleak that theatre troupes often changed the ending to something more palatable. There are many themes at work in this scene, not the least of which is the tentative relationship between words and reality. The ability of the two older sisters to deceive their father with words, and the inability of the loving daughter to believe in words at the moment when Lear is dividing his kingdom, represent a world in which words are divorced from fact. *The Tragedy of King Lear* is partly constituted by Lear’s implicit belief that words correctly convey the reality of the world. This ‘problem of representation’ sits at the center of the play, and, if Shakespeare writes our world at all, it might be said to also reflect on our contemporary need to find foundations of meaning outside the

symbolic power of text and language. Lear strips naked in a storm to feel the materiality of his world, to recover his sense of the real. Like Lear, faced with the tragedy of the commons that much of education has become, my need to understand the material foundations of learning and teaching has become a way of reconstituting my own sense of the future. In this way this study has become my life.



Above: A Vase with Flowers (Vas 1969)

As a measure of life, this study can also be said to be measurable in miles as well as the twists and turns of a study as it encounters the obstacles of research. I might be the first person in history to consider writing a musical about the life of Charles Darwin's gardener (who had a secret, second life in the resurrection business; he traded in freshly dead bodies). At another time, I began a survey on nonverbal communication in teacher training programs in seven countries including Ghana and Canada. By accident and in practice I have interviewed teachers at every level, including world famous linguists in ivory towers and teachers without jobs. I filmed bonobo chimpanzees along the Olentangy River in Ohio. By complete accident I found and interviewed one of the world's experts on gesture for singers and actors. What is a widely held belief is that the shifting semiotic landscapes of our globalizing cultures have also shifted the grounds of learning and teaching arts and sciences. And as globalized, political forces reduce education to formulas, and as technological euphoria attempts to establish communicative channels without correspondence to the materiality of 'pig earth', what appears to be at stake are the social spaces and fields of meaning which surround the empathic, the

caring, the sense of belonging, and implicit respect in which we allow for the possibility of the young travelers as they encounter a new world with new meanings.

- Is there a word that defines the common space between us? What are the barriers in seeing the body as a signifying event? Can we develop a practical and useful grammar of the body's signs within educational culture? How are we not-knowing now?

What has been always curious to me, in interviews, travels, and talks over many years, I did not meet a single educator who had had instruction in how the face, hands, and voice work in space. My review of teaching textbooks and interviews with teachers in training programs indicated that instruction in intonation, gesture, and body reading remain absent from educational theory. At the same time, I was discovering some compelling evidence about non-linguistic modalities and their relationship to social cohesion and cooperation. And I began to see that the result of this study might be that I would become a teacher of teachers. For future teachers, the ones who would follow me into the camps, ghettos, and literacy programs, I might understand the contours of social fields in a way that might help future teachers understand the predicament of education in a changing world. I might create a link between what I have learned about the communicative body with the young traveler who used to tell his students that what they needed to know could be found in the words of another wanderer, Walt Whitman, and his original (1855) preface to *Leaves of Grass*:

Love the earth and sun and the animals, despise riches, give alms to everyone that asks, stand up for the stupid and crazy, hate tyrants, argue not concerning God, have patience and indulgence toward people. . . . Go freely with powerful uneducated persons, and with the young and with the mothers of families -- reexamine all you have been told in school or church or in any book and dismiss whatever insults your own soul; and your very flesh shall be a great poem and have the richest fluency, not only in its words, but in the silent lines of its lips and face, and between the lashes of your eyes and every motion and joint of your body (Whitman (1855) 1959, p. 415 - 416).

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Chapter 2. Methodology

Students, teachers, administrators, and education professors have all been called to work even harder, to achieve even more . . . We might say that what is operative is an accountant's concept of education, higher figures (in our case, higher test scores) to indicate accumulation, in this instance, of cultural capital, which is supposed to translate into increased gross national product (Pinar 1994, pp. 235-6).

I remember starting out, doing some chalk and talk at the board, I put an answer up that I realized was wrong. Well, I stepped back and looked at it, and I knew it was wrong, but I couldn't admit my mistake. I just left it up there for the students to write down. A bit after that, I remember being overwhelmed by this horrid smell, it was the smell of death. It didn't take long . . . to realize it was coming from me. (Fieldnotes January 22, 2006).

2.1 Introduction:

This chapter explains the research design, defines the analytic tools of the investigation, and describes four interfields that organise the argument that the human body communicates social and emotional values prior to and beside language, and that awareness of the communicative body has implications for learning and teaching arts and sciences.

2.2 Research Design: Emerging Design

Considered in historical texts, film, and interviews with contemporary educators and thinkers, the history of understandings associated with body-thought tells a complex tale. The communicative values of the body have not enjoyed a paradigm in a Kuhnian sense, nor a research community that has agreed on an epistemology of body-thought. Many current understandings stem from a plethora of synchronic, behaviourist studies that appeared primarily in the United States during the 1950s and 1960s. Beginning with Darwin's *The Expression of Emotions in Man and Animals* (1872), some research has as its aim to show that some gestures

and expression are ‘innate and universal’ rather than conventional (Pinker 2002; Ekman 2003). To another way of thinking, non-linguistic expression is steeped in cultural backgrounds and the ‘display rules’ of particular social groups (Efron 1941; Mead 1943; Burrow 2002). Contemporary uncertainties and research deficits may not be any fault or prejudice within human sciences, but seem to be involved with evolving ideas involving the human relationship with nature, the study of consciousness and cognition, and changes in global, socio-cultural organisation. These evolving knowledges are also closely related to the evolution of discourses within educational, cognitive, and social theory. The methodology employed here explores the cultural history of a metaphor – the communicative body -- as one way of exploring the connection between the body and learning, and supplements this history with observations of ‘local truths’. While it is “only recently that historians have started to become interested in gestures as a key to the cultural codes and sensibilities of the past” (Bremmer 1991, p. xiv), cultural, historical interpretations of the communicative values of the body can be seen as central to informing transformative practices for education.

The debate, some might say antagonism, between quantitative and qualitative methods in educational research continues. As early as 1941, Erich Fromm astutely outlined the problems with how data can befog the issues before us. The flow of data and facts,

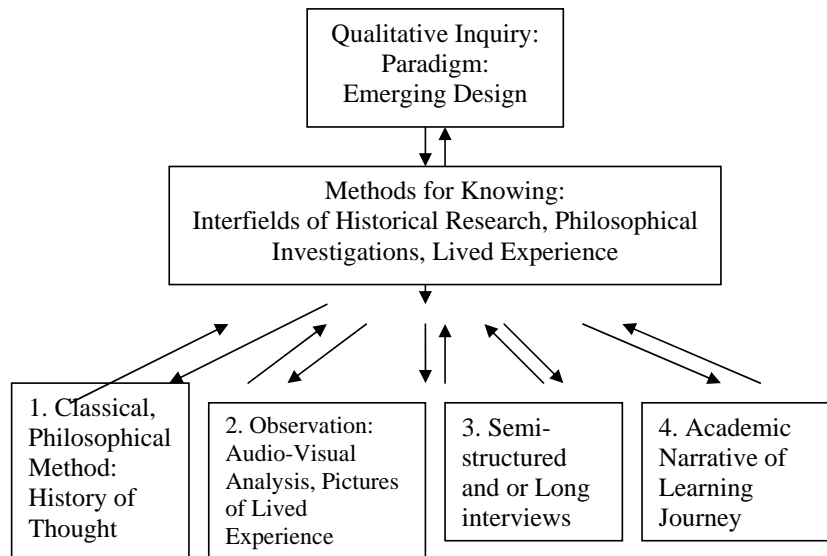
Tends to discourage people from trusting their own capacity to think about those problems that really matter. The individual feels helplessly caught in a chaotic mass of data and with pathetic patience waits until the specialists have found out what to do and where to go. The result of this kind of influence is a twofold one: one is scepticism and cynicism towards everything which is said or printed, while the other is a childish belief in anything that a person is told with authority. . . Its essential result is to discourage him from doing his own thinking and deciding (Fromm 1941, 1965, p. 276)

Here, I don’t mean to contradict the findings of many researchers in the field, but want to suggest that a rigid view of scientific inquiry and inductive method might be limiting in some cases (Cronbach 1975). During the course of this study, induction leads to findings which change the original questions for study. Filmic data in particular allows us to view social fields in order to define interpersonal reasoning in ways that have been at times surprising. In addition to the rich description and interpretive analysis, film can be a helpful interpretive tool in quantifying social fields. In that respect, the methodology presented here has emerged out of data conditions.

I agree with Nel Noddings that what should not be contended in the debate about methods is that educational researchers should be clear about their purpose and the limitations of the design of their study (Noddings 2003). A humanist's complaint about natural science might surround the idea that the 'truths' established by 'global science' can become vocabularies within power discourses and parts of institutional, economic, and military agendas. Theory can become separated from method, and the goal of 'truth' subsumed to the flow of research dollars and the promise of academic advancement. For example, in the years in which this study proceeded, a good deal of 'new knowledge' was developed in relation to the use of technology in the classroom as well as in wider society. There is work being done on how technology 'extends' the senses and 'interfaces' with the body in a way that does give the appearance of a new knowledge and or paradigm. As a researcher, I made a conscious choice not to perceive communication technology as the sole means of defining new knowledge in the current educational milieu. Though I use music-making technology in the classroom, and have used technology in pursuing the investigations within this study, I came to the view early on that 'science and technology' might represent a limiting view-finder for this investigation. For instance, recent studies show how technology has begun to facilitate increasing social isolation (Putnam 2000; Smith-Lovin 2006). Since this study is investigating the social field of the classroom, technology as a source of 'new knowledge' represents an unnecessary limitation. In fact, the accent on technology in academic settings might point to a larger complaint about science in general.

To summarize the complaints about 'science' found in Rosen (Rosen 1985), Noddings (Noddings 1995), and Searle (Searle 2002), the lack of critical inquiry into scientific activity has allowed researchers to continue to pursue 19th century ideas of universalism, and brought us, in some cases, to the realization that 'science' can produce harmful results. In response, this study's methodology has been aimed at engaging 'local truths' and 'exceptions to rules' rather than search for universal foundations for natural laws. Discovery, analysis, invention, and observation have emerged in sometimes personal, non-linear, and accidental ways. Some originating metaphors and clusters of meaning still have a place in the study, while other paths have faded. In all, direction of research does not always follow what a curriculum coordinator might call a 'pattern of exposition', or what a supervisor might call a 'research format', or what a scientist might call 'hypothesis-driven experimental science'. Writing about facial expression

and intonation has led to discovery about facial expression and intonation; discovery about gesture has changed the wording of the original questions and propositions that first led to the writing. This interfolding of metaphors, pictures of body movement, social interactions, accidental events, writing, discovery, and interpretation of history is a methodology Creswell calls emerging design (Creswell 2005).



Emerging Design can be seen to participate in a broader questioning of formerly secure notions about what educational research is and how knowledge is discovered and articulated. Here is Robin Usher in *Understanding Educational Research* (1996),

The questioning of what ‘scientific’, ‘rigorous’ research is and what its effects are, is part of a contemporary condition which Habermas has called ‘a crisis of legitimation’, and Lyotard ‘a scepticism about the grand narratives of the European Enlightenment’, an aspect of what is now generally referred to as ‘postmodernity’ (Usher 1996, p. 25)

Emerging design may guard against prior recognition of categories or ontological assumptions which could obscure the truth of the phenomena as it happens. David Brazil, whose excellent work on intonation informs part of this study, sees this process of postmodern research, emerging design this way:

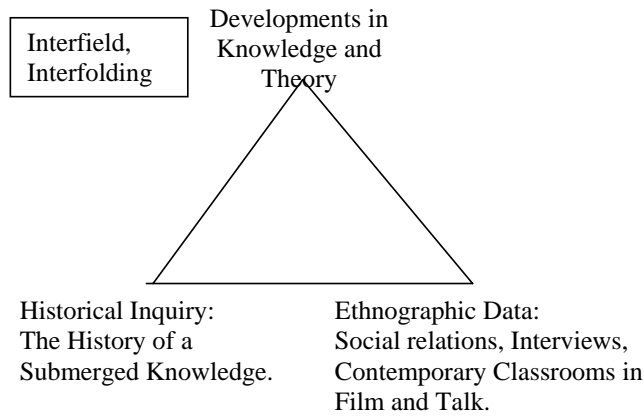
I have come to realise that there is not quite the worrying incompatibility between research method and presentation method that I once supposed there was. For even when working on real data one is constantly asking what does happen and comparing its significance with what (in terms of evolving description) might alternatively have happened. The process of invention seems to be an unavoidable concomitant of observation (Brazil 1997, p. x).

The acknowledgement that observation and invention are concomitant has also been called a crisis of legitimation in knowledge claims. These factors contribute to my agreement with both Anthony Giddens (Giddens 1984) and Robin Usher (Usher 1996) on the interpretive, hermeneutic nature of social and educational research. One kernel of Giddens' structuration argument is that the natural sciences can loosely maintain a distinction between the objects that they inquire about and the subjects who do the inquiry. Giddens explains this as a consequence of the fact that the natural sciences can identify 'natures'. No corresponding distinctions can be made in the social sciences. For instance, intonation choices, made by either a teacher or a student, depend on the speaker's evaluation of the social field, the context and extent of the common ground between the speaker and the listener in the moment of the speaking. The voice in particular does not have a material nature, but engages in "an interactional 'given-ness' and 'newness' of information" (Brazil 1980). The social world is saturated not with 'natures' (biological, laws) but with meanings, both prior interpretations and new interpretations created by human subjects in social fields. As explicated by Usher, the interpretive function of social research creates what Giddens called the 'double hermeneutic': research interprets social action from the standpoint of a community, which itself includes a system of regulation and control on the research. The knowledge 'created' reflects both the process of discovery, the social reality of the researcher within a community, and a knowledge/power formation: "the co-implication of disciplinary knowledge and regulatory power" (Usher 1996, p. 37).

As a teacher before this study began, I held an implicit, critical view of the spaces of the classroom and how the communicative values of the voice, face, and hands function within that space. I have survived the rise of the corporate model in educational design partly by focussing on the student's identity and taking an interest in their personal and artistic expression. When I had my chance at a prolonged study, I tended to agree that traditional teaching and teacher training has as its focus the curriculum as object, curriculum as lesson, conveyed in a face front, symbolic arrangement that reproduces "the phallic order created by men, rather than the

concrete, embodied world of children created by women” (Pinar 2000, p. 378). My investigation of social values layered into the body hopes, at least, to address this symbolic order of alienation between student and teacher that is the norm of pedagogy within most contemporary classrooms. What this means is that I am not studying curriculum or even a discipline. Our ‘humanities’, our social values and emotions, evolve in lived connections between eyes and hands and feeling-tones in voices, of parent/child, brother/sister, student/teacher (Grumet 1988; Noddings 1992). Social values develop in part from out of our mimetic abilities and fill intersubjective fields. A classroom is a culture constructed by bodies and languages at the time of their living and learning, a culture engaged with a complexity of the aural, visual, and kinetic neurological architectures we are only just beginning to visualize and interpret. A classroom is a place of synchronizing and harmonizing and humanizing spaces. The distortion of this humanity -- in alienating spaces and static concepts of education, in narrowing disciplines, in rigid methodologies, in teacher training -- requires that we reassert methodology, at least in part, as relationship rather than rule or course of study or object observation (Grumet 1988).

Social relationships, intellectual links, invention, and discovery have influenced my methodology to such a degree that I will present my findings as interfields, combining historical research, filmic data, significant statements, and analyses that attempt to capture the interactional processes and values generated by the investigation of body-thought. The presentation of the study interrupts itself when the rules of academic research and presentation defeat relational, cultivation of links, knowledge, and social relations that have been at the center of my own development and the study of the texts, teachers, and philosophers with whom I have worked. In this way I hope to both acknowledge the double hermeneutic at work in social research and provide interfields that explicate and investigate the nature of intersubjective processes.



2.3: Methods for Knowing the Communicative Body

I aim to ‘know’ the ways and meanings of body-thought and how they relate to sociality and emotionality, through four analytical research tools: philosophical investigation, historical research, filmic data, and interviews. What follows are descriptions of the ways I understand these tools.

Philosophical Investigation:

The goal of philosophy can be said to be an articulated and integrated vision of humanity and its place in the universe (Ragland and Heidt 2001). Writing recently about the present state of philosophy and its vision, Alain Badiou (Badiou, Clemens et al. 2003) suggests two common themes conjoin contemporary orientations of philosophy. The hermeneutic, analytic and postmodern traditions situate themselves at the end of Western metaphysics. A dogmatic metaphysics of truth is no longer possible or sustainable in our world due to the accumulation of knowledge and bodies of evidence that have effectively defeated the ideal forms and supernatural realms of human faith and imagination. All three of these contemporary traditions see us at an end, a closing, the end of philosophy, the end of history, etc. The second axiom shared by all three is that the ‘crucial site of thought’ is language and meaning. This location of language as the nexus of subjectivity and thought indicates what Karl-Otto Apel calls the ‘linguistic turn’ in modern philosophy (Apel 2001). The question of how we make ourselves in

the world is engaged with how language constructs and dominates our thought and social worlds. This linguistic turn has replaced the classical, ontological questions about the nature of reality and of truth with epistemological language games such that we live in a 'state' of contention of linguistic meanings (Bernstein 1990).

This study hopes to enlarge the philosophical project to investigate the contours of subjectivity outside of language alone. Michel Foucault's archaeology, genealogy and ethics have provided us with ways to acknowledge that each culture interprets signs based on power-knowledge systems; historical transformations involve modalities of knowledge which effect subjects in 'regimes of truth' (Foucault 1977). While I do have difficulty with his position with respect to what our responsibility is to one another, Foucault's method does contribute to this investigation into the possibility that certain 'lost meanings' of human life involve social and emotional attitudes and values within 'body-thought' that are submerged to the broader concerns of discourses and of 'power'. In other words, the 'voice' of the body can be seen to have been a submerged knowledge through the Enlightenment, modern, and postmodern epistemes. Agreement and consensus about intersubjectivity and learning have in some ways not been possible because the ways in which we constitute social space itself have been linguistically investigated and understood. In reality, "Language never escapes the body" (Terdiman 2005, p. 6). While postmodern theory and philosophy challenges the orthodoxies and grand narratives of rationality, critiques of rationality have also ignored that within these traditions, we can uncover knowledges that offer us direction in creating dialogues that will escape unproductive differences.

Historical Inquiry:

History is one close relative that philosophy can still stand to be around. An interpretation of the history of non-linguistic communication creates a new view of our current conundrum with regard to learning and the construction of social values. Historical and philosophical investigations into the sources of the communicative body have been drawn from periods of time we broadly call the Western Renaissance, Enlightenment and Modernity—From Descartes to Montessori and into the 20th century. Semiotics has opened up the field of study of translinguistic models of signs and symbols (Barthes 1975; Kristeva 1980; Kress 2000); interpretations are not only phonological or textual, but lived experiences that can be revealed

and rescued from oblivion by historical research. As to how we can begin again to construct ethical, social spaces in schools, as Charles Taylor noted,

We have to try to trace the development of our modern outlooks. And since we are dealing not just with philosophers' doctrines but also with the great unsaid that underlies widespread attitudes in our civilization, the history can't just be one of express beliefs, of philosophical theories, but must also include what has been called 'mentalities'. We have to try to open out by this study a new understanding of ourselves and of our deepest moral allegiances (Taylor 1989, pp. 104, 105)

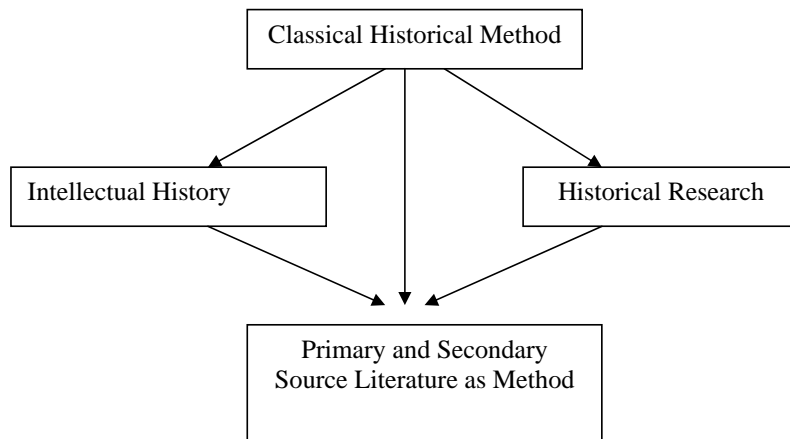
With respect to historical frameworks, in making the claim that as Western history emerges from out of the hegemonic domination of Latinate Christianity, beginning with Descartes, the body begins to be asserted and 'read' into communicative processes. Both Foucault and Habermas (despite their professional disagreement) suggest similar readings of history. Foucault's concept of historical episteme (Foucault 1970) considers that as the institutions of a particular age create and sustain power-knowledge relations, the individual subjectivity necessary to comply with the social practices of those institutions is 'drawn' by liturgical, medical, criminal, educational practices. In a similar vein, Habermas suggests for centuries, in what might be called "The Great Sleep" of western history, reason itself had been subsumed by religious (emotional) institutions. If we accept Habermas' reading of the Middle Ages, we might say that, following Aristotle and Hellenistic Philosophy, Plato and the Stoics, the emotions and feeling states associated with the body are channelled by religious thought into ideas of soul. Suffering and passion, emotional expressions relative to the 'body of Christ', become acceptable as reified feeling states that have a clear relation to codes of social order. The ontological foundations of social norms, as they exist in the materiality of the body, become inscribed by social and political practice. This premodern learning is embedded in religious traditions that limit, inhibit, and transcribe both emotional and cognitive possibilities. It also indicates that 'soul' becomes associated with the "superior forms", with reason and faith together, themselves a subsumed form of emotional attachment to an ideal. Emotions become otherworldly, immortal, born by the cross (Habermas 1990).

The materiality of the body and its expressive attitudes are not being explored in this study as either an antinomy or harmonizing note between word and thing. The difficulty of this project is in presenting the historical development of ideas about the communicative body and how these ideas relate to pedagogic and social attitudes in the present. Withstanding these difficulties, the

view here is that a contemporary theory's reliance on textuality—and how 'nothing but the text' has been interpreted —endangers another kind of history: Western philosophy's steady diet of 'language games' obscures a deeper, organic strain of social values. The social world is made up also of bodies; our bodies literally connect us with organic layers of history and ecology. Recent and contemporary feminist theory has led us to consider the body's need for a voice and the body's need to be reclaimed in the interest of research (Gough 2005). As commented recently by Richard Terdiman,

We can't resolve the crux about representation . . . But I want to urge that we reconceive the separation of language from materiality . . . a linguistic absolutism is no longer conceived as a non-negotiable disjunction and transforms itself into a relationship – vexed and difficult, to be sure, but a relationship nonetheless. This move reconceives difficulty . . . as a space of problematic mediation – of difficult or restricted flow or passage, rather than absolute blockage (Terdiman 2005, p. 30)

The historical development of vocabularies and taxonomies that surround the 'secret and languid flame invisible' (Proust 1957) is not generated here by a canonical reading of history, but is a celebration of the inescapable fact that both creative and historical literature provide multiple perspectives for seeing the sources, origins and growth of human knowledge (Berger 1972; Eagleton, Jameson et al. 1990; Stevens and Stewart 1992).



Historical method also comes with the danger that history itself might bias the study toward a singular view creating the tyranny of a single perspective. Research can escape from the tyranny of a single viewpoint through a process often defined as triangulation. Triangulation is an aspect of research design derived from the use of multiple sources of evidence converging on the same phenomena (Yin 1994; Denzin and Lincoln 2003). In this case, I will present triangulation as interfields. Since I will not seek to reduce a phenomenon to an unnatural or narrow result, interfields present clusters of meaning and themes that include history, philosophy, theory and practices. This multiplicity of findings will be obtained from different informants and different sources of data, creating a fuller and clearer understanding of the phenomenon. With regard to the importance of triangulation (interfielding) as a measure of trustworthiness of the data, multiple sources of evidence will be gained via multiple methods. Historical analysis of classic texts will provide this study with the latitude required to capture the luminosity and vitality of the phenomenon of the communicative body. Toward these ends, the researcher views additional settings as rich fields for generating data as social acts and lived experiences, as ‘ways of seeing’ outside of and in addition to traditional philosophical and historical inquiries.





Above: During a class break, a student mimics a teacher's gesture. This experience of connection is the cornerstone of 'the self' (Gilligan 1988; Leavitt 1995). Here the student's education is about selecting who she wants to be like. Through mimicry, episodic co-engagement can be viewed as the real material work of becoming (Fieldnotes February 22, 2006).

Filmic Data:

There is nothing particularly new about recording and studying film or video samples of classroom interaction. However, the use of moving pictures has changed the way we view human life in numerous fields: cognitive science, educational theory, structuralism and post-structuralism, philosophy, chaos theory. Many discourses in post war intellectual society have been striving to microscopically examine sensation, interaction, and consciousness to render a clearer picture of thought and communication. Visual metaphors begin to pervade where descriptions of processes and historical analysis previously reigned (Banks 2001). Theory has begun to live up to its own meaning (theory: to gaze upon) (Horkheimer and Adorno 1972). The machines brought a new sensorium, new subject/object relations, and created a 'new person'—both the observed and the observer. We became able to slow down the motion of reality long enough to see the previously hidden, physiognomic meanings of social fields (Lewin 1997). This opened up a view on social and cultural processes in new ways. Film is a kind of technology and a kind of magic. With respect to these new ways of seeing, the decade of the 1950s was the tipping point, in a manner of speaking, when we began to view social fields

and social processes using what Benjamin called “the dynamite of a tenth of a second” (Benjamin and Arendt 1968, p. 280).

As noted by Mead, while anthropologists used photographs in the nineteenth century to begin to catalogue the various cultures of the world, up until the 1950s, the social sciences had largely been a ‘discipline of words’ (Mead 1995; Banks 2001). The facts, evidence, and theses of social science privileged texts and discourses framed by the meanings of words and the ideas words carry in print. New techniques for measurement changed the nature of the field, and none of these techniques was more pervasive and dominant as the moving image in its ability to capture social fields. Where Darwin discovered natural selection while walking along the beach and puttering about in his greenhouse, following the world wars some sciences followed where instrumentation led. Faster cameras, film, tape recordings, and finer analysis of records changed the nature of how we look into social structures as well as nature (Mead 1969). Where in the past a scientist had been schooled in an integrated view of the world and might have followed intuition, now we supplement our senses and intuition with diagnostic tools. Education separated us into separate disciplines, and the result was that some sciences left behind the intuitive searches for new methods of analysis in specific fields. For example, in the post-war years, we see even the fledgling, empirical science of nonverbal communication break up into microscopic, synchronic examinations of eye contact, the study of touch, of body movements, and spatial relations. And within each of these then, we might suggest that microscopic examination obscures broader concerns. For example, much of the post-war, nonverbal communication studies try to freeze, in time, social processes, and ignore the larger questions of mind/body relations, intersubjectivity, intentionality and social values. This study acknowledges both the positive and negative consequences of film, and so supplements the quantitative and microscopic abilities of film with the macroscopic orientations of philosophical, historical analysis, and interview.

Interviews:

For the past 15 or 20 years, everything is how technology is going to be central to learning. Well, that is an interesting idea. But what does that have to do with teaching? Teaching is a two way mirror. You could say that we haven’t even understood that. Before we turn things over to machines, we might begin training teachers in how to

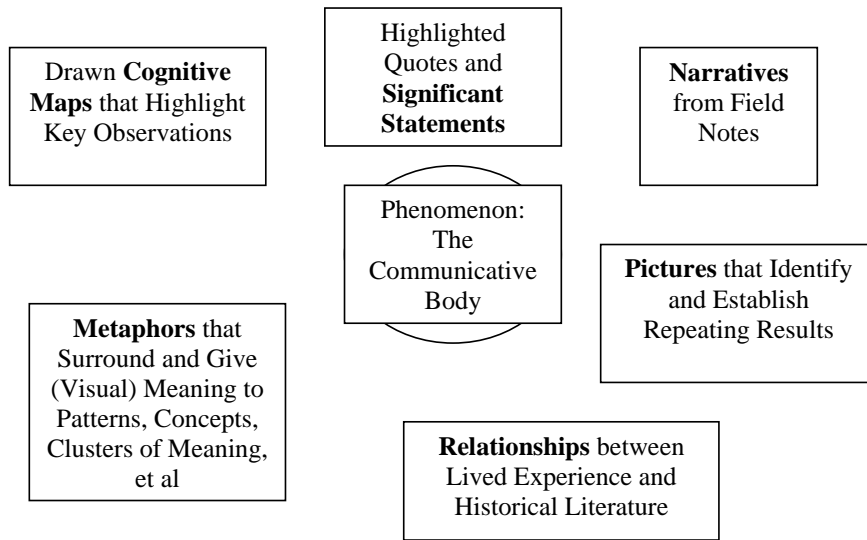
make kids feel safe and secure. The way our society is going, I reckon we might think about doing that quickly (Fieldnotes January 22, 2006).

Given the number of people involved, the social nature of the research process, the key role played by teachers and educators in the life of the researcher, as well as the depth of experiential evidence needed for the research argument, the informal interview played a vital role in how I have come to understand the epistemological body. A methodology of ‘talk’ has allowed for the deconstruction of traditional commitments to academic and investigative formalism that might have obscured the lived experience of teachers. While it might be anathema to admit this, I learned to care for the novice teacher who I interviewed and filmed, the teacher who had little understanding of how her gestures were being understood by her students. This creation of a positive, co-researching situation between two people might have improved our ability to care for the students who had been entrusted to us.

Gillham has noted that some research interviews can be formal, and thereby discomforting for the interviewee (Gillham 2000). For this reason, I conducted interviews in the context of ‘chats’ and ‘discussions’ in order to explore the issues in as natural and non-interventionist way as possible. These interviews included more than a dozen teachers, both master and novice; a renowned expert on teaching gesture to singers and actors; and many academics. My technique in interviewing coincided with both Scott (Scott 1997) and Stenhouses’s (Stenhouse 1982) notion of a conversation rather than an interrogation. Based on observational work in a natural setting (the classroom) and ethnographic fieldwork (interviews) transcripts from structured, semi-structured and long interviews became a critical procedure in understanding how the communicative body, social fields, and the relational dimension of learning is understood in the lives of individuals as they experience their lifeworlds and institutional settings such as schools.

2.4 Exegesis: Reporting and Representation of Data as Interpretation of Streams

Because interfields are essential in creating a fuller understanding of a complex phenomena, this study generated what Krathwohl calls data streams, information from the various lens through which the communicative body can be viewed (Krathwohl 1997). Combining the above strategies, and practicing the processes within Emerging Design, key data streams within the interfields began to appear as the following:



The evidences and ways of seeing elaborated by these data streams will further be refined and defined through four, interpretive lenses: autobiography, organisation and classification of historical findings, visual representation, and interpretation.

Autobiography: A study of this nature involved years of both intellectual and physical adventure; it is an odyssey, in travel, books, libraries, and encounters, in meeting people in the field, in conference going and presentation, in joining with other researchers in the discourses and curricula of a field of study. For this reason, autobiography, provides the personal meaning of the experience, and is a good place to start an ending (Creswell 2005).

Organisation and Classification of Historical Findings: As central metaphors surrounding the phenomenon of the communicative body have emerged, these helped to classify and give meaning to highlighted quotations and significant statements, descriptions of research experience, and summaries the role of historical data. This will be accomplished in chapters (or interfields) with data presented, for the most part, in a chronological pattern.

Visual representation: Some communicative acts and values fall outside the scope of linguistic representations. Because of this, visual and aural representations of findings are key elements for a reflexive methodology.

Interpretation: Interpretation by itself is not description, but representation through metaphor and image in addition to description is. Interpretations offer ways of seeing what happened, how it happened, and why it happened. Interpretation is both a process and a goal. Ongoing through the study, it is consequence as well. In this case, creating interfields of data have become a means of interpretation I hope will allow a reader to participate in and assess.

These four, evaluative lens will be presented in four interfields that roughly correspond to the last four centuries of human history: the 17th, 18th, 19th and 20th centuries. Interpretive vignettes, made up of filmic data and significant quotes, will be used intermittently to underscore the phenomenon of body-thought and its critical relationship to the intersubjective nature and process of knowing, learning and teaching. What follows are brief synopses of the four interfields:

2.5: Four Interfields

Chapter 4. Interfield 1: 17th Century: The Ancient, Contemporary Body

While messaging through the body is a category of Aristotle's rhetoric, and there is a rhetorical tradition through Cicero, Quintilian, and Augustine. This study views the intellectual milieu of the Renaissance as a place to begin our investigation into the part the epistemological body plays in social learning. With Rene Descartes' response to the letters of Elizabeth, Princess Palatine, the early Enlightenment establishes certain social and emotional meanings by which the body can be understood. Following Descartes, Charles Le Brun's teaching with respect to how young painters might convey certain social and national characteristics conveyed by the face implicates body-thought in the rise of cultural abstractions such as nation, race, and gender.

Part 1: The Republic of Letters

Part 2: The Body as Source of Social Values

Part 3: Vignette: The Listening Face

Chapter 5. Interfield 2: The 18th Century: Retrofitting the Body for God

A discussion of the highly influential and regressive work of Johan Caspar Lavater, who believed the face expressed directly the ‘alphabet of God’. Lavater inspired a good deal of controversy, along with educational materials, which established physiognomy as a legitimate, if short lived, ‘science’ of the Enlightenment. This section also reviews an early, educational textbook inspired by Lavater that contributes to our understanding of how body-thought is interpreted by essentialist positions during the Gutenberg Era.

Part 1: The Alphabet of God

Part 2: The Juvenile Lavater

Part 3: Vignette: The Silent Way

Chapter 6. Interfield 3: 19th Century: The Cult of Nature

With the physicians Charles Bell and Duchenne, with Darwin and Wilhelm Wundt, the 19th century finds consolidation of the idea that the physical body, in particular the face and hands, plays a central role in non-linguistic social attunement and emotional communications. But do these meanings change? Are they ‘universal and immutable’? This chapter will consider how body-thought traverses the territory from aesthetics to physiology and to psychology. By considering how gesture is understood in the frescoes of Giotto, this study investigates how the body is involved in historical transformations of the interpretation of signs.

Part 1: A System of Dissections

Part 2: The Man Who Murdered God

Part 3: Vignette: On Smiling

Part 4: How Meanings Change

Part 5: The Body Electric

Chapter 7. Interfield 4: 20th Century: The Rise of Social Contexts

In the first half of the 20th century, gesture studies and the study of the face fall into some decline. David Efron's study in 1941 raises the possibility that the body's signs are mutable and culturally constructed. While 'science' continues to search for universal, foundational knowledge about the body's 'language', this study's findings surround the possibility that some culturally constructed values and interpretations are temporal, interrelational, and local truths. Models for how body-thought might enhance teacher training bring us to a horizon where we can articulate new directions for understanding the common ground between teacher and student, how we communicate knowledge and sociality through the epistemological body.

Part 1: Vignette: The School of the Teacher's Voice

Part 2: Magic Lanterns, Italian Jokes, and Dimensions of Science

Part 3: Animal Communication and Sustaining Social Values

Part 4: Teaching to the Chora

Chapter 8. The Communicative Body: Eight propositions for a new logic

The non-linguistic modalities of the communicative body are involved in communication, learning, and are sources of individual and social identity. These modalities are not 'natural objects', but are social processes at work with internal structures of consciousness best understood in the context of their use and expression. Attempts to unify or reduce the laws and functions of the communicative body might contaminate the knowledge with social and political power. Rather, understanding social contexts and empathic responses that form the common ground between us allows the body to enter lived experience as material discourse. In conclusion, this study offers eight propositions for a new logic for the languages of learning and teaching arts and sciences.

Sources of the Communicative Body

Chapter 3. Survey of the Literature

The majority of textual evidence presented by this study is drawn from four centuries of time and cultural production. The evidential choices made here reflect as nearly as possible works directly related to communicative, non-linguistic channels of the human body. I acknowledge this in the recognition that no narrative or chronological thread could effectively encompass the entirety of the materials from historical, creative, and narrative literature. Giving a more complete view of the subject, I will briefly survey global tendencies with respect to the communicative body in the history of Western philosophy and thought. Following that, I will briefly present four ‘scaffolds’ or theoretical metaphors that emerged during encounter with the literature and which have become irreducible parts of the study’s findings.

Numerous theories and schools of thought have struggled with the place of the body in thought and communication; these include the Early Renaissance, the Rhetorical School, the Cartesians, Aesthetics, the 18th Century, Psychoanalysis, Poststructuralist, Phenomenology, the Post-war Empirical Tradition, the Ecologists, and the Educationalists. I will survey these schools chronologically, but do so also in the understanding that a ‘century’ is not all that it is cracked up to be as an analytical tool. In fact, this study views time as porous and disjunctured; there are pieces of the past in the present and pieces of future in the past. Nevertheless, that old chestnut of a time-ordered narrative allows us to surround the development of an idea in a fashion that might approach, at times, methodological.

The Classical World and Early Renaissance:

There seems to be virtually no case in which the soul can act or be acted upon separate from the body (Aristotle and Barnes 1984, p. 642).

In what we might call the early Renaissance, a Rhetorical School retains certain classical ideas about the communicative body and its place in general curricula. This classicism views physical gesture as occurring simultaneously with speech and central to rhetorical persuasive technique. The tradition runs from Aristotle, through Quintilian and Cicero, through Augustine and up through contemporary theorists such as Kendon and McNeill. “The penchant for fine delivery” (Golding, Jelgerhuis et al. 1984, p. 19) was considered a required skill, particularly at Jesuit colleges and early, European universities in the 14th and 15th centuries. This classicism in performative rhetoric and stagecraft informs some of the concerns at the root of some present day educational and theatrical programs such The Gesture Approach and Gesture for Singers and Actors. Herein, the communicative body is a faculty that supports the capacities of language, music, and learning in delivery and presentation. The general ontological outlook of this school sees the body’s communicative channels as backgrounded to, but supporting linguistic and musical forms of thought and knowledge. The body is a means by which orators and speakers (politicians and corporate stylists) sketch attitudes and appeals in anatomical detail that support the representational world of language.

The Cartesians:

Cartesian Duality: As Western philosophy moves out from underneath the constrictions of Latinate Christianity and royal authority, beginning largely with Descartes’ last book, *The Passions of the Soul*, (1649), and running through Le Brun and up through contemporaries such as Ekman and Freisen, some philosophy suggests the body ‘houses’ and expresses emotional states of being. These states are distinct from the ordered, rational structures of ‘the mind’, but necessary for social cohesion; these expressions of emotions or passions, primarily in facial expression, are viewed as having singular, universal meanings. This school can also distantly be seen to include contemporary movements, including Martha Nussbaum (2001), Katherine Weare (2000), and Roslyn Arnold (2002) who view emotional states as involving both regulatory, bodily functions, which are critical for survival, as well what might be called the social or public emotions. These social or empathic intelligences and literacies, such as Descartes’ generosity, Nussbaum’s compassion, and Damasio’s feeling-body-tones are complimentary states to reason and central to social interaction.

Aesthetics:

Beginning in 17th century aesthetics, notably with Charles Le Brun, through the 18th century stagecraft, and including contemporary artists such as Bill Viola, and historians such as Helga Hill and Dene Barnett, the communicative body has been viewed as a source of performative and intentional meaning-making critical to aesthetic representation. Particularly on stage and on canvas, this school presents a kind of classicism in which symbolic, rational and sensible applications of the body provide the arts with precise stylistic ways to convey forms of body-thought. Interestingly enough, on canvas, these models remain nonverbal expressions of, as has been argued, expressions of character and virtue, racial features, expressions of class privilege, national identity, etc. On stage, the face and hands and body posture are seen as effective and skilful ways of elaborating the passions that are appropriate to the action of the scripted tragedy or comedy itself. As we will see throughout this review, there are overlaps in the positions of these schools. In both Aesthetics and the Cartesian Passions, the body's ability to contain, express, elaborate and/or release emotional knowledge and relational attitudes becomes a crucial matter of technique and will inform this studies argument with respect to social, attitudinal spaces in the classroom.

18th Century:

Largely anchored by the work of Johan Caspar Lavater, along with theories of stagecraft, the 18th Century finds the rise of a scientific physiognomy in Europe. Here, the communicative body lends itself to quite divergent views. On the one hand, and to a lesser extent, P. Camper and Buffon make claims for a primitivism of body-thought, as phrenology, etc., that will stand in relation to racial thinking and the early formation of cultural abstracts such as race, gender, national character, etc. In addition, theatrical style manuals, which culminate in Jelgenhuis' *Lessons on the Principles of Gesticulation and Mimic Expression* (1827), exemplify a growing body of literature on how the art of gesture informs the theatrical arts. In yet another field, Johan Caspar Lavater will argue, quite popularly, that human physiognomy expresses God's alphabet. Lavater's moral thought with respect to the body will anchor educationalists' efforts in early textbook production, as we will see. The face and how it communicates virtue and character and other 'theological principles' provide a way to witness the inability of the 18th century's discourses to comprehend difference and anticipates the long history of racism which becomes a political and theoretical principle of European colonialism.

The Naturalists:

In the 19th Century, with work beginning with Charles Bell, G. Armand Duchenne, and elaborated on by Darwin, clinical studies of facial musculature, expression and the ‘meanings’ conveyed by the eyes and physiology of the face begin to place displays of emotion and sensation within the realm of scientific analysis of human communication. Including Darwin and Wilhelm Wundt, a good deal of naturalist and psychological theory hoped to situate the body as the source of ‘universal and immutable’ meanings. The body’s anatomy and physiology carries a language of its own in gesture, and this explains, in part, the origins and phenomena of human language and certain social structures. De Jorio’s work on the hand gestures in southern Italy (1832) will be a seminal and originating work in the field of cultural, gestural studies. In part, the current fascination with animal communication and what it reveals about the ontology of human, social organisation can be seen as an extension of the 19th century naturalist thought of Bell and Darwin while the linking of gesture and facial expression with primitive forms of language originate in the work of de Jorio, Clark, Mallery, and Wundt.

Psychoanalysis:

Theories of neurosis and hysteria from Freud through Lacan define the communicative body in a way that gives us theories of sexuality and, largely, unconscious wish. Though psychoanalysis is embattled as we enter a new search for ethics and valuation in the era of merchandised social value and global warming, Freud originates one of the first to see the development of the subject, subjectivity, and cognitive development as involving processes of the physical body. His view of stages of development will be used by many, including Montessori, Piaget, and Vygotsky. Psychoanalysis will largely see the body as an expression of unconscious wishes and unintentional expressions of distress. Even if the ‘talking cure’ hasn’t made our lives any better, the location of a ‘truth’ of the body as ‘real’ and directly affecting conscious life and identity development, the view of the human subject as coming into the ‘world’ defined as conflict and suffering from body-mind relations, establishes within the body, a communicative reality in an irreducible way.

Phenomenology:

Phenomenology is a notoriously difficult word to define. Beginning with the philosophical work of Edmund Husserl, the term has been re-defined and refined by Merleau-Ponty (Merleau-Ponty 1962), Levinas (Levinas and Nemo 1985), Creswell (Creswell 2005), Madeleine Grumet (Grumet 1988), among many others. One way to get at the definition of phenomenology is to consider the work of Merleau-Ponty and his insistence on the materiality of perception. “My body is where there is something to be done” (Merleau-Ponty 1962, p. 250). And while drawing some valid and pragmatic criticism for its insistence on non-reflective consciousness, phenomenology requires that we consider the deepest matters of human concerns, the very origins and problems of consciousness and communication, and the thorny issue of how the body resists ideology and power. The materiality of how we see the world also stands in contrast to theoretical constructions about ‘there is only text’. The tension between what we aim to conceive of intentionally, and what we represent, in language, is a gap that involves the real world, time, and the inability of metaphysics to explain the totality it claims to explain.

Poststructuralist:

In much of his work, Michel Foucault claimed the body and ‘bio-power’ stands at the center of the relationships between power and knowledge and how institutions of power and knowledge constitute the subject they require for (repressive) social organisations and ‘regimes of truth’. As individual subjects are constituted by institutions of power, certain elements of agency—in resistance and self-authored difference—are rooted in part by what Foucault calls ‘bio-power’. Other authors have ventured into this domain, including Merleau-Ponty, Julia Kristeva, and Peter Brooks, among others. Attempts to resolve the theoretical tensions between the communicative body and textuality by exploring the body-subject as perceiving-entity and object in the physical world have informed this study’s findings; the body is inscribed by power and resists power; the ‘word’s physiognomy’ is rooted in bodily functions. The source of transformative subjectivity and agency can be expressed as the performative distance between what we aim at linguistically and what is presented materially.

The Ecologists:

The 20th century represents a radical break with many of the myths of the past, including the idea that history has a reason, and the ‘shock of the new’ also surrounds non-linguistic communication; we begin to see the groundwork laid for ontological study separate from both God and a determinant nature in numerous areas of intellectual life, a welcoming of ambiguity as systems of definite institutional power break apart and break out (Mead 1969). In the wake of that breaking apart, and in the face of the emergence of the limits of the biosphere, in the face of the increasing complexity of the natural science’s impact on both culture and the environment, another counter-narrative to both rationalism and theology has begun to emerge; this discourse might be called Natural Humanism, though some have termed it Deep Ecology (Capra 1995). This study hopes to contribute to the move away from a mechanistic view of nature, of nature as machine. In this paradigm, human beings are seen as machines as well. We are made up of so many working parts that can be taken out, looked at, dissected, and, finally, replaced. This shallow ecological framework allows us to engage with the environment in a productive, manipulative, and tool-makers’ way. Deep Ecology situates both human and animal communication as new orientations to the epistemological claim that the human social ‘system’ is part of a larger natural system.

Deep ecology does not separate humans from the natural environment, nor does it separate anything else from it. It does not see the world as a collection of isolated objects, but rather as a network of phenomena that are fundamentally interconnected and interdependent. Deep ecology recognizes the intrinsic values of all living beings, and views humans as just one particular strand in the web of life (Capra 1995, p. 20)

The Post-War Empirical Tradition:

Rooted by some anthropological explorations in the early part of the 20th century (Mead, Bateson, Efron, et al) the post-war years find the establishment of an empirical community investigating what becomes known as nonverbal communication, a phrase that first appears in 1956 (Ruesch and Kees 1956). Many synchronic, experiment-based research communities explore the body’s communicative patterns as elements of both social and psychological ‘behaviours’. These studies explore human subjectivity from the viewpoint of physical expressions of cultural and biological meanings, and also make claims of universality with respect to how and what the human body communicates.

When we come to the second half of the 20th century, in its classic rendering, nonverbal communication refers to communication-by-action that includes facial expression, eye contact, gestures, postures, and other movements. In the postwar sciences, movements and gestures and postures began to be codified, sometimes according to how nonverbal acts overlap with linguistic communicative systems. At other times researchers viewed the acts as isolated phenomenon; that is, nonverbal communication has been seen as informational, affective, and, even “more honest” than linguistic messages (Fast, 1977). In general, we might suggest that other than the work of Ekman, the emotionality and sociality underlying the discourses of nonverbal communication that we see in our historical rendering of the evolution of the idea are subsumed to the ‘new’ knowledge that not only words facilitate informational flow from encoder to decoder which contains certain inferences made or intentionality implied (Weiner, 1972). Other theoretical perspectives emerge, which decenter the field of communication and nudge words from their privileged place at the central focus of communication studies. At the same time, much of the post war science might be said to rely too heavily on synchronic presentations of ‘cultural’ meanings and lay about the room of literature like lazy children, a situation we will discuss below (Birdwhistell 1952, Ruesch, 1953, Ekman and Friesen, 1969, Kendon, 1967, Mehrabain, 1971, 1972; Sommer, 1959).

Interestingly, the empirical field develops numerous disciplines and sub disciplines exploring communication during the same time period when television begins to appear in the homes of many modern, Western societies, and at the same time popular music begins carves out an industry as it makes a joyful noise in nightclubs and on radio. It would appear that the major changes in how we communicate—literacy becoming literacies—also contribute to the scientific exploration of physical, emotional, and sensorial modalities of communicative acts. And as was nearly customary of the era—a motive of science in separating theory from method—the field divides and territories are staked out by the various disciplines in academic and scientific research. These various disciplines begin to construct theories and conduct research as to the how and why of nonverbal communication. We might outline and label some of these theoretical models as such: anthropologic models: In the 1950s and into the 1960s, anthropologic models of nonverbal interaction view gesture as specific to distinct human cultures (Bateson and Mead 1942; Hall 1959; Montagu 1971; Birdwhistell 1973; Ekman 2003). Functional Models: Beginning with Ekman, Argyle, Dean, Paterson and others, in the 1960s and 1970s, nonverbal communication is seen to have clear functions for social tasks; empirical study

has implications for sales and marketing, understanding criminal behaviour, group social control, etc: (Argyle 1975; Patterson 1983). Systems Theory: In the late 1970s and into the 1980s and 90s, nonverbal communication is seen as a subfield of semiotics: these knowledge fields can anchor an integrated view of human communication. The sociality, emotionality, and ideology of sign systems come to influence design, curricula, communication systems, and reinvigorate our theories of the arts and humanities. Educational Theory: In the late 1970s and strongly through the 1990s, studies begin to place nonverbal communication in the classroom. Using Mehrabian's Immediacy Principle, nonverbal channels of communication begin to be studied for, among other things, teacher effectiveness, attention studies, interpersonal distance. In 1991, the single title on nonverbal classroom communication appears (Neill 1991). Philosophical Investigations of Consciousness: This postwar, empirical scientific investigation of non-linguistic communication parallels developments in Chomskyan linguistics, cognitive sciences and neuroscience, which come together in some philosophical investigations of consciousness. Theorists like Damasio, Donald, Searle, and Deacon begin to view consciousness as involving a nonverbal core of awareness, a 'primitive sensualist' at the center of mind, which develops and changes in relation to language. If there is a 'minister of the interior', as it were, he or she can be seen as a nonverbal awareness that sits in a complex relation to language and culture. (Churchland and Churchland 1998; Donald 2001; Searle 2002)

In all, the above this empirical tradition might best be summed up by Burgoon and Hoobler's seven classes of nonverbal codes or channels of non-linguistic communication (Burgoon 2002):

1. Kinesics: bodily movements, including facial expressions, hand and arms gestures, posture, gaze and gait
2. Vocalics: Use of vocal cues other than the words themselves – pitch, intonations, tempo, inflection, silence
3. Physical appearance: clothing, hairstyle, cosmetics, fragrances, etc.
4. Haptics: use of touch, proximity, frequency and intensity
5. Proxemics: use of interpersonal distance and spacing
6. Chronemics: Use of time as a message system – punctuality, waiting time, lead time and amount of time spent with someone
7. Artefacts: manipulable objects and environmental features that may convey messages from their designers and/or users

The Educationalists:

Running throughout this entire review of the literature is the awareness that educational theory and the communicative body are never far apart: the body's place in learning and communication, from Descartes (1649) through Montessori (1889) and up to contemporary researchers such as Sean Neill (1991), is a kind of 'minority report', an alternative history that can be viewed as critical to learning and teaching arts and sciences. In the entirety of the literature, the only figure in history not directly involved in educational practices is Darwin (!). Since this study is making the claim that there is a gap in the research and knowledge claims about the communicative body with respect to the teaching arts and sciences, how the communicative body has been understood by and for educationalists throughout the Western Enlightenment effectively allows us to enlarge the canon of knowledge about learning and teaching.

Four Theoretical Metaphors or Scaffolds:

In order to implicate literature's place in this investigation more to the letter, I want to present and define four, conceptual metaphors and/or second-order scaffolds that emerged from the literature and which have framed the research design and ways of knowing; they are: 1) parallel processes within the learning environment, 2) Damasio's feeling-body-tones, 3) the twilight of the literary, and 4) the communicative body.

1. Parallel Processes within a Learning Environment:

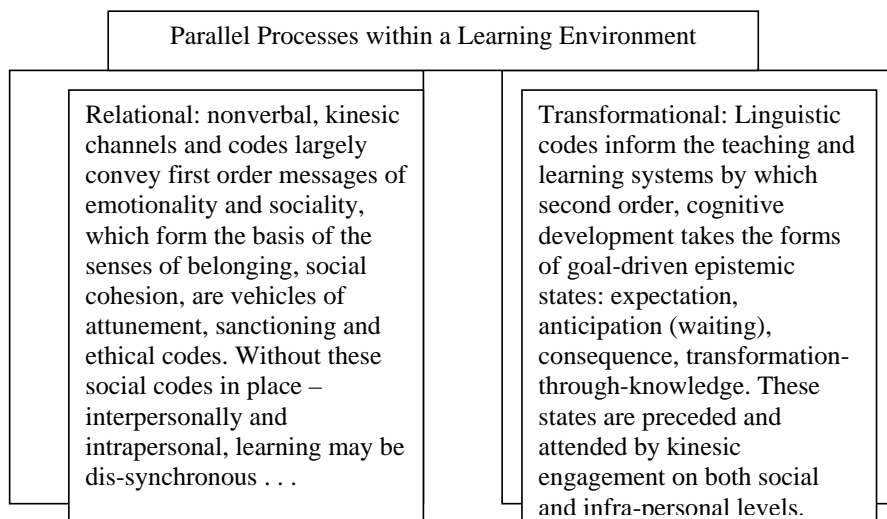
In America in 1938, records show approximately 300,000 children were in licensed programs; in 1945 almost a million. In 1973, records showed 640,000 children using licensed day-care facilities, but "estimates of the number currently needing care have ranged from 2 to 4.5 million" (Fein 1973, p. 11). This is just one country. The number of children worldwide in day-care and child-care facilities, in orphanages and attending the schools of the streets is a big number. The point in this is that the changing view of the child and the family in global society over the past century requires us to consider changes in how we conceive of schools as well. The current economic rationalism in educational theory ignores the fact that at earlier and earlier

ages, children enter public and private facilities and their expressed needs and wants, as well as their implicit needs and wants, in addition to the needs and wants of the parent, have entered into educational theory and practice in ways that might be considered. What used to be the ‘school of the mother’s knee’ has become Creative Wonders Day Care and the like.

This study views these changes as central to the problems of experience in schools at many levels, and moves forward in agreement with some tenets of Care Theory (Noddings 1984; Noddings 1992). As changes in home and gender relations have put more pressure on the schools, “schools must do much of the work once charged to families. The best schools should resemble the best homes” (Noddings 2003, p. 260). While I’ll forgo discussing the meaning of the word ‘best’ as it is used here, these changes in the functions of a school have created a climate where both tradition and the current aims and goal of education might be seen to lag behind the state of the classroom itself. Western education has sided with knowing the known as the basis of education. We value assessment and outcome. We value the process of learning ‘the truth’. But what becomes of the knowledges of ‘home?’ That infant world where things are felt more than known? The world of intuition, of curiosity and no set meanings? The world of non-linguistic modes of communicating? It does not go away, but to borrow a metaphor from Freud. It has become like a disruptive student sent from the classroom to stand outside and bang on the door to get in. We must use numerous resources to repress that world of memory symbols and the truth content that originated in the gaze between parent and child, the gaze which first bore the promise of personhood.

The crucial step here is seeing that this clash between feeling and knowing is not simply about modes of knowing, but what can be known. The world of feeling, as I have described it here, is a world of social knowledges, acts of comfort, of intimacy, of a certain set of values that, on the whole, cannot be replicated by activities of the classroom aimed at knowing the known. One recent discussion of this is by James Paul Gee who sees the conflict here between primary discourses and secondary discourses (Gee 2001). For Gee, primary discourses are the languages of social practices: words, acts, gestures, glances, attitudes, values. By the age of 5, a good deal has been enculturated into a child. Gee considers this primary discourse one foundation on which all other knowledge will rest. Following this enculturation into social practice, the child must then learn a dominant, secondary discourse, the language of the print media, where if it is in print it can neither be changed nor challenged.

This study investigates whether we should effectively ‘redraw’ the model of learning and the classroom to show that learning involves (at least) parallel processes. These parallel processes include both relational and social attitudes (nonverbal, primary, inter-personal, emotional) as well as cognitive and transformational meanings (verbal, textual, intra-personal, cognitive). We might map processes as such:



This study is in part founded by the understanding that an ontology of certain social functions can be defined by nonverbal means and that these social functions, which include senses of belonging, attention, caring, and enthusiasm, are relational states necessary for higher order functions of human reason and rationality. For example, the movement of the hands and expressions of the face, what Burgoon and Hoobler (2002) call kinesics, constitute a subset of communicative values at the center of this study; along with vocalics (intonation), facial expression and gesture of the hands are the most often and most easily changed in the course of speech (Kendon 2004). The relational processes or attitudes of the classroom are often times defined by the communicative value or significance of the face, hands, and vocal intonation. Certain contours of sociality are oriented on and by the human face, and cannot be efficiently surrounded by text, speech, or linear, linguistic orders of thoughts. Montessori’s movement pedagogy, Damasio’s feeling-body-tones, Merlin Donald’s nonverbal-conscious-core are some

of the developments in thought that have led to implicit knowledge about how certain patterns of attention, caring, response, enthusiasm and immediacy originate and are sustained in relational spaces created by nonverbal means. While acknowledging these processes, this study moves forward in the understanding that very little historical and philosophical research has explored the implications of these understandings.



Above: A still from Judit Vas's *Methods* (1969) (Vas 1969).

When curriculum is alive, it invites the student to reappropriate it as she reclaims her identity from its origin in her parents' look, grasping and dislodging and reclaiming its perspective. When the curriculum is a dead sign, all of us, teachers and students, stumble under its empty stare (Grumet 1988, p. 116)

2. Feeling-Body-Tones:

If educational theory has moved toward acknowledging its additional responsibilities as places where a child has a care-giving relationship with adults, then the peril in suggesting that there is an entity of subjectivity outside of language—in non-linguistic channels and modalities—raises hackles. We appear to cross the well barricaded borderlands between biology and culture, and this is a territory well fought over. When theory mixes the social and the biological, alarms go off and for good reason. On the one hand, the political complaint is that any location of social value in the biological opens up the door to eugenics, Social Darwinism, and social biology; all

of these fields have given rise to thought that demeans and collapses human values in the extreme (Nussbaum, 2001). The complexity of human subjectivity and identity demands that the high end of consciousness be explained in a uniquely human way. And, hence, we often use an umbrella term for the phenomenon of consciousness -- 'spirit' or 'soul' or 'language'.

This study argues that the gap between the materiality of the body and our conceptions of consciousness can be addressed in an adequate and restrained way. One of the guides in taking on this difficulty is Antonio Damasio. In *Descartes Error—Emotion, Reason and the Human Brain* (1994), Antonio Damasio, a neurologist, tells the tale of three patient cases with very similar presentations; all three sustained damage to the prefrontal lobes in such a way that their intellectual capacities, including logic, mathematics, memory, language, and a grasp of their surroundings were not damaged; in other words, their higher order thinking capacity was intact; yet each patient goes through a rather horrifying slide away from respectability and into dependence. Each becomes a social anomaly, indulging in foul language, unable to make decisions and exhibiting poor planning. Damasio spends two decades trying to figure out why.

What Damasio concludes is that the brain and body are interconnected by a complex chemical system, that parallels the neural system, and this is anchored by glandular activities that release the hormones, peptides, and endorphins, which flow from the organs to the bloodstream. The layers of evolutionary activity have compiled, in the human being, what amounts to a pastiche, or palimpsest of systems, and they have a unique balance. What Damasio and others have begun to suspect is that language and sign is not the whole of a self. Damasio presents an entrance into the neurobiology of rationality, and he begins to suspect the Cartesian dichotomy between rationality and feeling, between mind and body, can be shown to be false. Reason itself is inextricably connected to substrate layers of the brain's world, the world of emotion and feeling. Where an excess of emotionality has been shown to cloud judgment and reason, Damasio seemed to be finding evidence for the opposite to be true as well with a complete absence of emotion, in cases where emotions are severed from intellectual capacities. This lack of emotion can separate reason from basic survival-ability. As witnessed by a socio-path. A reduction in emotionality can be a source of irrational or destructive behaviour. This in turn provides what Damasio sees as a neural basis for reasoning and decision making in which the brain integrates messages from the 'feeling brain' with the higher orders of the neo-cortex.

If we accept Damasio's argument that rationality requires the bodily-feeling-tones that convey social and emotional attunements, how are these feeling-body-tones communicated? This study builds on Damasio's findings by arguing that these emotional links to reason and rationality are conveyed, at least in part, through non-linguistic means. With respect to classroom practice, what this implies is that the social foundations of learning – respect, care, loyalty, compassion, the empathic – are implicitly understood along and through frequencies of the nonverbal, communicative body. Whatever role language plays in these social attitudes and dimensions, as we turn to the methodology of our research, the contours of these social, emotional, 'feeling' fields of our beings might lead us toward a clear understanding of the body as a material utterance itself, and not only an utterance itself, but one crucial for establishing and reconstituting the social environments of trust and belonging necessary to learning.

3. The Twilight of the Literary

The cultures defined by words and phrases such as the Renaissance, the Enlightenment, the Age of Revolution, the Age of Exploration, as well as national, monolingual social organisations, modern education, and viable, intellectual, modern communities are largely centered around Gutenberg's invention in which he combined the technology of the winepress with moveable type. Text stabilized language, and with that stabilization came the possibility of static meanings and formulas defining a static universe, and what follows this stasis is widely impressive. From 1450 to our world today, we account for mass literacy and modern education as following reproducible type; the rationalism of scientific knowledge, standardized systems of spelling and grammar, the historical, factual knowledge of the world. These knowledges and their supporting institutions are rooted in Gutenberg's ink-stained winepress. modern society, what William Connolly calls 'The Civilization of Productivity' (Connolly 1993), began in the sea of ink, wherein homogenous communities and nationalities and monolingual nationalism establish the social relations and knowledge institutions that become the 'cathedrals', as it were, of the religion of mass literacy. While this study is not engaged in a critique of the 'civilization of productivity', it explores the idea that the visual and visible aspects of culture are replaced by a language-based discourse.

This consensus that 'The Gutenberg Era' privileged textual information, that linguistic, monomodal cultures and knowledges center the modern world (Birkerts 1994; Graff 2001),

stands to reason. The emergence of modern institutions corresponds to materializing books, as noted by Terry Cochran in *The Twilight of the Literary*,

University organizations of knowledge and consolidations of statehood, to the more abstract inventions of vernacular grammar . . . arrive with the printed book, the mechanical means of materializing, publishing, and distributing efforts of the human spirits permits socio-political practices and conceptions of human understanding that have subsequently been identified as “modern”; these novel conceptions are so entrenched in and intertwined with modernity that not even the multiple media of the 20th century were able to dislodge them (Cochran 2001, p. 14).

Likewise, as the 20th century has brought on a ‘new age’ in which reproduction of knowledge is made possible in new, filmic, digital and pixilated technologies, these new technologies do not easily dislodge books, as we know. The point here is that when books became a dominant way in which human civilization passed on knowledge, it did not dislodge early forms entirely. (Remember that Alice falls asleep because the book her auntie is reading has no pictures). This inability by books to dislodge earlier forms of conveying (visible, somatic) information opens an interesting interpretative window. On the one hand, we might suggest that means of cultural production are like habits, hard to break. Alice, like many of our children, not only learns through the visual, but loses interest when the visual is not represented. We might also investigate how residual means of orienting human culture to certain associative (visual) systems are better conveyed in means other than the emergent form (text). In this case, we are exploring whether certain spatial, visual literacies surrounding ideas of deep, social attunements – the fossilized, organic layers of social and emotional meanings -- are conveyed by the hands, face and intonation of voice more readily than the emergent form of durable textuality.

When the linearity of language is insufficient, spatial and visual means of representing appear. Jack Goody (1986) calls this non-syntactical language. The most obvious example is increasing prominence, dominance even, of the visual areas of public communication. Music, as well as the body and its movements, as examples, is also pushing into the center of social practices and learning processes. In the past, two critical modes of communication—visual and musical – largely remained outside the theories of communication. They have been un-theorized or under theorized, so we find ourselves ill-equipped to explain and utilize the new semiotic landscape. There is a tenured, entrenched and general assumption that language is adequate to express anything at all (Kress 2000); instead, we see the rise of a visual grammar offering differing

potential for representation and communication. Among these new uses of visual grammar, we find:

1. Communication media of gesture language
2. Manual media: hands and arms
3. Nonmanual media: facial expression, looks, head, upper parts of the torso, configuration of the mouth.
4. Paralanguage, which includes pitch variant; pace; stress; phonological units; lexis; sequencing, etc. . .

These modes of communication represent both a past and a present, an archaic and an emerging social semiotics, developing beyond communication theory, beyond functional theory. The attempt to define and outline both contemporary and historical contours of these modes of communication allows us to see how this broader scope of representation occurs. The hands, facial expression, the head, upper parts of the torso, configuration of the mouth, and paralanguage, including pitch variant; pace; stress; phonological units; lexis; sequencing, etc, all contribute to the creation of social attitudes and spaces in ways that have been under recognized throughout history, but which have crucial applications to classroom practice.

Since the nature of knowledge and meaning making can be seen to be shifting, current communication theories describe the use of existing (and passing) stable systems rather than describing the processes of remaking and transformation. The fast developing technologies represent a threatening, new, and more intense distancing, a new alienation of ourselves from our bodies; and if we do not take this opportunity to redefine meaning making, we not only deny ourselves the possibility of actively participating in the shaping of this age, as Gunter Kress writes, “we may unwittingly collude in a new diminution of the potentials of being human” (Kress 2000, p. 157). The communicative channels of the body are situational, constantly remaking and transforming the social dimensions in which other forms of representation occur. Awareness of the dynamics of the perceiving body and body-thought is an under-investigated cultural knowledge, particularly with respect to the teacher in the classroom.

4. The Communicative Body

The metaphor of the communicative body creates an image by which we understand a dimension of human communication, sometimes called non-linguistic or translinguistic communication. The metaphor allows us to effectively imagine, create, and nurture social spaces in which the higher orders of human cognition function. Non-linguistic channels have been seen as a 'language'. They are of a finite variety, and involve the whole body: the movement of the hand, the placement of the feet, the curve of the body, the arms and hands and fingers, and facial expression, and are major sources of messaging. This study is primarily concerned with how we have understood facial expression, hand gestures, paralanguage, and the intonation of the voice through time. Ideas surrounding the communicative body can be shown to have sources in history, which reveal pertinent knowledge for contemporary understandings of, among other areas, classroom practice and the nature of human consciousness. *L'eloquence du corps*, Augustine's *verba visible*, *L'civilization du geste* are examples of some of the vocabulary and taxonomy that have defined and charted the development of how emotions, social passions, aspects of attitudes, and the contours of public spaces are informed by body-thought.

Many traditions agree that somatic intelligences begin to form conscious, social and cognitive aspects of the mind before a child begins to use language (Woolf 1948; Damasio 1994; Weare 2004). Those of us who have been in a birthing room know that these intelligences begin about thirty seconds into life. The child's eyes open and the interplay between the faces and fingers and the feeling states of warmth and love and need and nourishment begin. Allowing for the development of these intelligences, in light of recent changes in the semiotic landscape, we begin to see more clearly that language is one order of cognitive development, that a good deal of learning patterns, subjectivity and identity begin to form in the early stages of a child's life, well before they are able to speak, read, and/or write their first words. In short, certain social attitudes of learning, caring, and representation are based on the somatic channels of the face, hands, and the valleys and hills of the pitch tones of the voice. How these channels inform the learning process throughout history and in contemporary practice are the questions at the center of this study. Since these frequencies play a central part in our family, social and early learning lives, this study investigates what types of information the communicative body conveys, how this information has been understood by educators through history, and how these work in the contemporary classroom.

The estimates for how much information we get through nonverbal channels range widely; some theorists suggest that we receive up to ninety percent of our information from non-linguistic means (Weare 2004). Others put the number in the sixty percent range (Mehrabian 1972). This study avoids this discrepancy by focusing on the types of information conveyed and how other educators and philosophers have organised our knowledge about these types of information. With respect to my own experience, as well as the research of the last twenty years in cognitive science, it would be a kind of heresy to suggest that non-linguistic, emotional, and social intelligences do not play a central role in our development as learners and teachers. The question is: what types of messages do the non-linguistic channels of the body convey? Gesture, facial expressions, spatial relations, as well as touch, working in tandem with language, define the communicative ecology of the human world. At the same time, our understanding of non-linguistic factors in intelligence and social spaces has lagged behind other research communities and intellectual discourses. With the rise of cognitive and behavioural sciences over the last sixty years, the knowledges about the body-subject, which during the Enlightenment belonged to Aesthetics and Psychology and Theology, has blossomed somewhat in social and cultural theory, as well as natural sciences.

The literature surveyed here opens up the possibility that certain types of information and social codes are conveyed efficiently and significantly through the frequencies of facial expression, hand stroke, and vocal intonation. What Damasio calls the feeling-body-tones of the feeling brain, the Hebbian cell assemblies link the lower, middle and upper brain, and inform higher functions of reason with both emotional and social knowledges—slower and older intelligences—which begin to form in the first moments of life, even within the womb, as we perceive the rhythms of syntax, breathing, and the musical whoosh of the mother's blood. This study investigates the possibility that these processes are non-linguistic and, if they are, a vocabulary for their understanding in the classroom will benefit teacher practice. How we have understood these knowledges through history, as well as how we employ them today might reveal the dangers, deficiencies, power of the 'interrelational perspective' of communication, and the new aims this perspective might bring to learning and teaching sciences.

Sources of the Communicative Body

Chapter 4. Interfield 1: Part 1: The Republic of Letters

In every act of semiosis—in every human act—either a material signifier transforms into an immaterial signified, or the phase change works in the reverse direction. There is a constitutive connection between the realms or phases of existence – centrally, between language and materiality. Everyone lives this connection constantly, and no one could live without it. The fact that it's difficult to capture in language doesn't mean it doesn't occur (Terdiman 2005, p. 171)

When something gives us pleasure, we are inclined to study it more carefully. It can also happen, of course, that the stage of romance is characterized more by puzzlement and intrigue than by fun. But even then, the process of finding out can be fun because one truly wants to learn, and the end result is a deep form of satisfaction (Noddings 2003, p. 244).

The investigation of how the communicative body has been understood historically, and how that has bearing on our educational situations today, begins within the intellectual milieu in which the first philosophy of the modern period arises—Rene Descartes, “the beleaguered founder of philosophical modernism” (Nye 1999, p. iv). Descartes’ letters with Elisabeth, Princess Palatine, and the philosopher’s late consideration of how the body and mind are conjoined, become a rich field for enlarging the canon and re-formulating the problems inherent in positing body-thought. What is curious is that our common perception of Descartes as a ‘high reason’ philosopher who argued for an immortal realm of ‘pure spirit’ does not take into account Descartes’ letters with Elizabeth and the book that resulted from those letters. We might suggest that we have misread Descartes and submerged this early understanding of how the body participates in creating relational and interrelational synchrony.

For all the comfort we find in the words ‘The Renaissance’, the period is a complex of chaotic influences, as complex cultural and economic changes sweep through the social and political institutions during the rise of what might be called ‘early modernity’ or the ‘European world system’ (Graff 2005). In the field of education, for example, problems of definition dominate our attempts to attain an undistorted view of the time: For those who could afford it, a small,

university system exists in Europe; formal education centered on the role of private tutors who worked sometimes loosely within universities, sometimes on their own. Rene Descartes is one of these tutors.

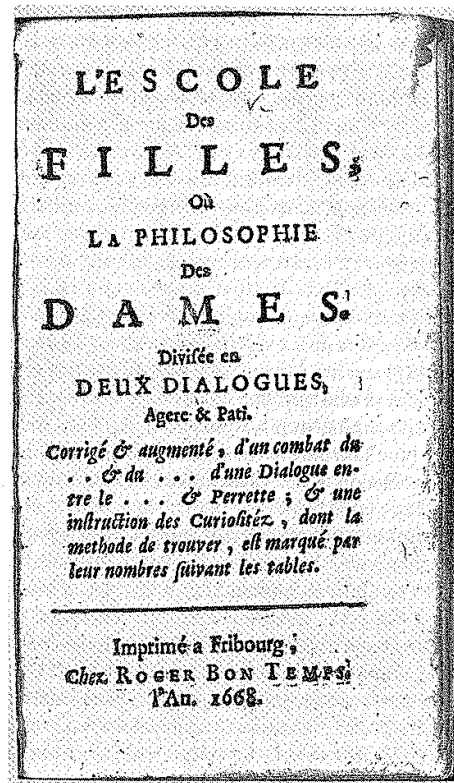
At the time he writes his last book, *Les Passions de L'ame* (1649), a short treatise that he writes at the request of Elisabeth, Princess Palatine, one of his students, Descartes is also a tutor to Queen Christina of Sweden. While this position may sound privileged, we might suggest the privilege Descartes has is having female students. European education at the time is largely an arrangement wherein middle and upper class parents would attach their young (mostly) male children to tutors who were charged with teaching the boys everything a tutor knew. The few universities themselves, the physical schools themselves, are campuses, places where impetuous youth would be given enough to do so as to keep them away from the vices and pitfalls of city life, which included drunkenness, brothels, and worse. At the early institutions of learning like Oxford and Trinity, for example, the gates shut at 9:00 PM. Any student outside the gates after that would be contemplating life as a streetwalker. Critic Lawrence Stone sees this as indication that the purpose of these institutions was more social control than intellectual endeavor. At the end of the 17th century, John Locke, one of the early theorists of formal education, suggested that the priorities of universities were virtue, wisdom, and good manners. With respect to the priorities of education, learning came last (Locke and Garforth 1964; Stone 2005).

In this educational milieu, Descartes is unattached to universities and widely regarded as one of the most learned men in Europe, though he is also besieged by clergy and heads of state for his 'radical ideas'. At the start of his last decade, Descartes is "increasingly embroiled in an ugly dispute with Voetius, the leading theologian of Utrecht" (Nye 1999, p. 9). The reasons for these disputes can be seen as the relationship of the clergy to education and the threat someone like Descartes presented to the ideological foundations of church power. As he himself writes to Elisabeth (June 6, 1647),

The theologians who were trying to harm me have been silenced, but this was done by means of flattery and by taking all possible care not to offend them. They said that this came about because of the tempter of the times, but I fear that these times will last for ever, and the theologians will be allowed to gain so much power that they will be intolerable (Descartes 1984, p. 324)

Descartes' philosophy and methods regarding the 'the simple natures' do not enjoy popularity among the clergy or among educationalists until well into the 18th century. At the time, his thought was a direct threat to the church as for the general public. The pastoral power of clergy, in the form of Sunday sermons, is the education most of the public receive; by and large, clergy instill the virtues and admonish the vices, and this type of instruction is inseparable in many western societies from matters of dogmatic faith. In fact, we might characterize the church and state at that time as purveying an anti-education. In Puritanical Holland, where Descartes wrote part of his 'First Philosophy' away from the demands of social life in France, the forces of education had begun to create subjects, tutors, and thinkers who had begun to view nature in a humane context. This was viewed in some sectors as a communion with Beelzebub. Humanistic rhetoric, as opposed to scholastic didactics, would have been seen as a danger:

Between the humanist flowering of reason applied to the knowledge of man, and the later application of reason to the secrets of nature, there bloomed also a reaction against both the Thomist alliance of faith and reason, and the humanist congruence of the Christian and rational lives of moral virtue (Morgan 1986, p. 62).



6. *L'Escole des filles*, title page

An example of the social conflict surrounding education and discourses exploring the idea of the body—the body as part of the (new) rationalist attempts to order the natural world—might be **L'Escole des filles, ou La Philosophie des dames** (1655), one among many printed dialogues concerning sexual education. In an excellent study of the early ideas of the body and education in the early Renaissance, James Turner (Turner 2003) notes that the literature of the age was peopled, in addition to a flush of Christian Bibles, with a smattering of libertine dialogues as well. In fact with Turner's help we might diagram two extreme views of the relationship of the body to the mind in this way: on the one hand, Turner recounts a letter of 1635 that describes an exorcism in which the devil had been located in a nun's vagina. Turner interprets this to have an implication that the 'nature' of sexuality (the body) was the domain of evil. "Being asked where

the devil was, the Frier and she confest in her (thinge)” (Turner 2003, p. 113). On the other hand, dialogues and discourses about the pleasures of the body and how the body works begin to pepper the public sphere as well. Though having no clear author, *L’Ecole des filles* is a dialogue concerning the initiation of a young woman into the arts of pleasure. While not dramatically new or innovative in relating the specifics of the workings of the body, the book opens a view concerning matters of the body:

Interiority in the seventeenth century . . . was conceived in images that vividly evoke the physical realm even when repudiating it in favor of mind or spirit . . . the distinction between verbal representation and bodily movement becomes hazy (Turner 2003, p. 113).



Elisabeth, Princess Palatine, Abbess of Herford (Nye 1999)

Descartes’ thought on the perceptual body and its relation to the judging soul (*une substance pensante*) does not develop in solitude. He has another student besides Queen Christina. Elisabeth, Princess Palatine, Abbess of Herford (1618-1680) is the first daughter of Frederick and Elisabeth Stuart. The Stuarts had been deposed by the Thirty Years War. Living in The

Hague, the oldest daughter Elisabeth meets Descartes. When she returns to Bohemia, she initiates a correspondence that will carry through Descartes' last years until his death early in 1650. Importantly, it is at Elisabeth's request that Descartes pens his last book on the issue of how the body and soul are related and what meanings the body and soul are conjoined in making.

Elisabeth has since become known as a person of wide and incisive learning, and she earns this reputation through the epistolary form. Voltaire uses the phrase 'Republic of Letters' to describe the social network of communication that transcended both national and religious boundaries. This social and intellectual network that featured Descartes and Elisabeth and included William Penn, Robert Barclay, Gottfried Wilhelm Leibnitz, and Jan Amos Comenius, among many others (Creese 1993). It is an epistolary network and one way intelligent women could school themselves in the changing social and political order of the early Enlightenment.

Letters permitted scores of women who had no literary ambition whatsoever to engage with the leading thinkers of the day. Women chose a favorite author or an accessible clergymen to write to, as a finishing touch to their education, a sort of Grand Tour of the mind (Perry 1985, p. 482).

Elisabeth is in her early twenties when she sparks a correspondence with Descartes by, among other issues, raising a problem with the philosopher's dichotomy of body and soul. In her first letter to Descartes, dated May, 16, 1643, she wrote,

How can the soul of a man determine the spirits of his body so as to produce voluntary actions (given that the soul is only a thinking substance)? For it seems that all determination of movement is made by the pushing a thing moved, either that it is pushed by the thing which moves it or it is affected by the quality or shape of the surface of that thing (Creese 1993; Nye 1999, p. 9, 10).

In response, Descartes is unable to placate Elisabeth's curiosity, and the subject of the body's place in the soul (thought) will carry on through years of sporadic letter writing between the pair. The point here is, that from the start of philosophical modernism, one important voice suggests that 'Cartesian Duality' does not adequately convey the relationship of the body to thought and cognition. The separation of the rationalist project of modern philosophy from the communicative systems of the human body might be seen as a paradox at the center of philosophical modernism, an ambiguous core around which modernism will turn. In fact,

Descartes' response to Elisabeth (May 21, 1643) gives us a way to frame the discussion of how the body appears to have qualities of consequence to human thought and communication:

There are two facts about the human soul on which depend all the knowledge that we can have of its nature. The first is that it thinks, the second is that, being united to the body, it can act and be acted upon along with it. . . . my principal aim was to prove the distinction between the soul and the body, and to this end only the first was useful, and the second might have been harmful (Descartes 1984, pp. 217, 218).

In that same letter, his first to Elisabeth, he also writes,

So I think that we have hitherto confused the notion of the soul's power to act on the body with the power one body has to act on another. . . . we have attributed both powers not to the soul, for we did not yet know it, but to the various qualities of the bodies such as heaviness, heat, etc. We imagined these qualities to be real, that is to say to have an existence distinct from that of bodies, and so to be substances, although we called them qualities. In order to conceive them we sometimes used notions we have for the purpose of knowing bodies, and sometimes used notions we have for the purpose of knowing the soul, depending on whether we were attributing to them something material or something immaterial . . . (Descartes 1984, p. 219)

This concept of giving names to ideas and abstractions which are actually a process of the body itself is a compelling notion, and involves the subject of Descartes' final response to Elisabeth. In 1649, Descartes will turn his letters to Elisabeth into his treatise on the passions, *The Passions of the Soul*. This is the moment in western thought when we first find the idea that the very nature of certain social meanings—for Descartes concepts such as generosity, as well as the 'five basic passions'—love, hatred, desire, joy, and sadness—are

. . . ordained by nature to relate to the body Their natural function is to move the soul to consent and to contribute to actions which may serve to preserve the body or render it in some way more perfect (Descartes 1985, p. 137).

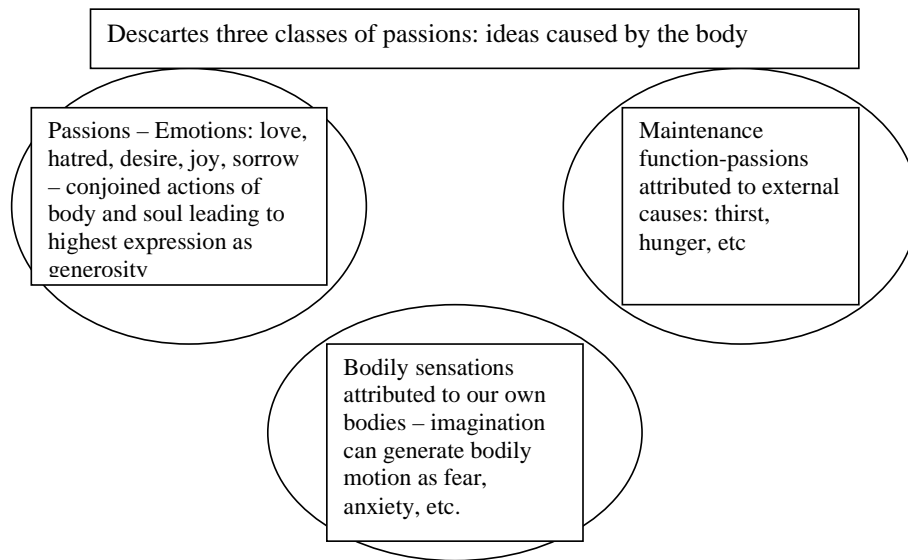
What is more, "It is on the passions alone that all the good and evils of the life depend" (Descartes 1985, p. 212). These body-based perceptions, thoughts, emotions—the passions—move through the body as facial expression as well as gestures, neural sensations, and actions of the limbs of the body. These physical movements or passions become the volitions of the soul and vice versa.

There is a waiting thesis about the ways in which this knowledge developed by Elizabeth and Descartes has been submerged over time. It involves the ‘innumerable centers of cultures’ (Barthes 1977), innumerable maps of misreading, and the anxieties and politics of what can be known and by whom. However, the question at the heart of this study involves not only rescuing from the oblivion of history the knowledge of the communicative body, but how these knowledges are communicated between people. Can the communicative modalities of the body be representational, intentional fields of knowing in any way? As Turner above suggests, here is where things get hazy: Descartes would have it that the soul moves through the body in a material way and vice versa; the body and soul are both at work in creating the passions, and generosity sits as the highest expression, a combination of body-thought (joy) with the divine epistemic benevolence of the soul. In order to see this point a bit more clearly, let us stay with the foundations of philosophical modernism a bit further, in particular focusing on the language Descartes uses in his treatise on the passions, and in particular the word ‘generosity’.

The Passions of the Soul

The phrase ‘I think therefore I am’ had first appeared in 1637. And while many of us learned it in its Latinate form as *Cogito ergo sum*, Descartes would have first written it in French: *Je pense donc je suis*. For a historian and expert on Descartes like John Cottingham, Descartes was rejoicing in the beauty of consciousness as a solely human possession, and how the functions of thought and language require a ‘rational soul’ that stands in relation to the material world of fact and the world of eternal reward (Cottingham 1998). Consciousness exists as part of some wider energy, distinct from perceivable reality, akin to Plato’s Ideal Forms and later Kant’s Pure Reason. The body housed sensation, imagination, and ‘animal spirits’. The transcendent and transformational quality of human consciousness, freed from biology, could be explained by making a distinction between these ‘animal spirits’ of the body and the reasoning entity of the soul. Historically, Descartes might be seen to be pinched between 1) the era of scholastic philosophy, in which all the natural world reflected articles of faith, and 2) the new world of rationalism represented by Copernicus, Galileo, and later Newton; Descartes resolved the tension between the dogmas of theology with the possibility of accurate judgment by establishing the Cartesian method, a metaphysics by which reason is a god-given facility of mind, while the body toiled with its fluid matter through and along the axis of the earth.

But as we have seen, in and through his letters with Elisabeth and the treatise that grows out of those letters, Descartes develops what might be called a ‘radical centrism’; in his last book, for Descartes, body and soul are ‘conjoined’. For Elisabeth’s further education, Descartes identifies three classes of passions. There are those that might be called the appetites or the maintenance system of the body and caused by the body – hunger, thirst, etc. The second realm involves perceptual ideas referred or attributed to their external causes; these are states such as fear or anxiety, which are based on external causes, related to memory and previous life experiences. Lastly, and our concern here, Descartes identifies the passions-emotions which are referred or attributed to the soul, but caused by physical objects acting on our bodies. This last invented realm involves love, hatred, desire, joy, sorrow. In effect, Descartes is the place where we have a first systematic ordering of the social or public emotions that nonlinguistic means – the body--create and convey, that are constituted by interrelational activities of life in love, hatred, desire, joy, and sadness. This is the first categorical grouping of what this study sees as the essential social meanings which are foundational to many forms of human relations, from nationalism and manners of worship to a classroom, to an individual engaged in cognitive tasks.



The question at the heart of this study is, how are these passions communicated? For Descartes and Elisabeth, the understanding of the five basic passions (love, hatred, desire, joy, and sadness) gets a little hazy and the distance letters provide might be part of the problem. Nevertheless, the ‘theme’ of emotional and passionate content to body-based thought, for Descartes, contributes to the conditions of these relational meanings by creating links between cognitive functions (reason) and to the neural centers engaged with sensation, imagination and, by extension, body-based ideas. These feeling centers in Descartes’ late work might be seen as akin to what a contemporary theorist like Antonio Damasio will call the feeling-body-tones (Damasio 1994; Donald 2001). Descartes suggests that what the ancients have taught regarding them “is so meager and for the most part so implausible that one cannot hope to approach the truth except by departing from the paths they have followed” (Descartes 1988, p. 218). How Descartes departs from those paths is quite telling: While defending his dual system of Body/Mind, he admits that what in the soul is a passion can be in the body an action. This conjoined state of body and mind is, again, a rather radical take on being for the time, and Descartes proposes, for instance, a radical shift in thought in his conception of the heat of the body as the essence of life itself. That radical shift might be summarized: The body had and has both physical and epistemic properties unto itself. The problem is that only the mind (language) can represent them.

In this respect, Descartes last book – The Passions of the Soul--might as easily be called *The Passions of the Body*; Descartes often takes the rap, perhaps irrationally, as the father of the idea that the soul is the immaterial and immortal center of human experience. In fact, Descartes might be seen as creating a kind of radical centrism, a middle road between two extremes. He does not see the body as a playground that might be ruled by the devil himself, but as the creator of body-thoughts—public emotions—that the soul judges and evaluates. This rational, judging soul is an immortal entity, a jewel within the finite flesh, which uses the capacity of reason to order the experience of the body into rational causes and moral categories. Seen in Turner’s way, Descartes is the first thinker to transpose bodily functions onto the soul, the first of the ‘moderns’ to consider the body as a communicative agent. Acknowledging that the body is a

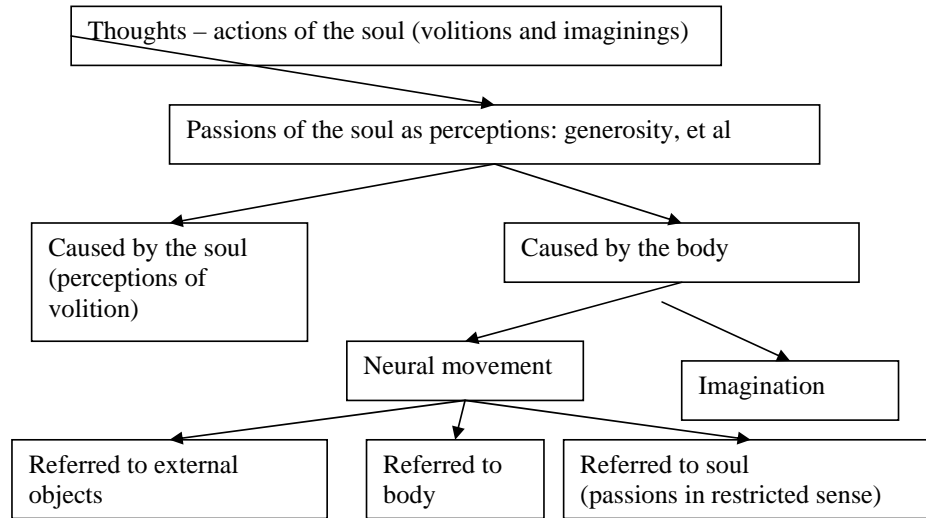
perceptual agent does not solve our problem, but deepens the conundrum of the body such that we need to consider how Descartes' ideas developed in order to bind our discussion.

The passions are part of the body's causal repertoire of actions, and the body as a causal agent is not a common philosophical category in the 17th century. What is distinct is that these causes of the body are linked not to cognition, but to sensation, imagination, and external (social) relations. They arise from the encounters with external objects (relationality), creating the various affections within the body itself. In this way, Descartes' conception of the passions of the soul differs from the Aristotelian scholastic philosophers; in that past thinkers linked the passions to the appetite-faculty rather than the perceptive functions. For the scholastic philosophers, the body also existed in an internal plane. Descartes' body-based perceptions are a special group of relational perceptions, an externality which the soul 'receives', and the principles of the soul unify these passion and emotions which is 'how the soul and the body act on one another'.

Here, we find quite an interesting and early diagram of human cognitive life and its relation to the communicative body: Once Descartes has established this distinction between the (individual) passions of the body and the (social) passions of the soul, once we see the workings of the harmful passions which elude control, and the beneficial ones which are directed by the imagination toward joy, we find this rather surprising quote:

All the contests we are wont to conceive as taking place between the interior part of the soul which we call the sensuous and the superior which is rational . . . between the natural appetites and the will. . . . there is in us but one soul, a soul that has no diversity of parts, i.e. it is at once sensual and rational, and all its appetites are volitions (Descartes 1988, p. 300).

Descartes Classification of the Interrelational Energies between Mind and Body



Descartes does suggest that the strong soul can escape the intensity of the passions, and the weak soul is unable to resist their energies, but it also appears Descartes is suggesting, that while the passions are not under our direct control, by understanding what they are and how they are caused, we can learn indirect means for directing them toward common, social goods such as love, joy, and generosity (Garber 2003). Descartes asserts this is one of the chief uses of reason: bringing the ‘appetites’ passions under control is one of the will’s sources of real joy because it allows for the emergence of the soul’s passion which is, in its highest expression, generosity. Here, Descartes’ language brings us quite close to the ideas that will later inform the work of Husserl, Merleau-Ponty, and Levinas. The communicative body is at the source of learning states, interactive, in this case, with the world, and with the Other (who is absent in Descartes). For Levinas, for example, the face-to-face will become engaged with the communication of ethics; for Merleau-Ponty, the ‘word’s physiognomy’. For Descartes, though he does not have the language for recognition of the Other per se. This realm of sociality is best seen through his definition of the word *générosité*.

The Social Dimension of *générosité*

Descartes' conception of the mind as a unitary space, at once possessing divine epistemic benevolence as well as engaged with perceiving the laws of nature's design, has to be resolved to social life. Descartes' attempt at resolving the unitary space of the mind to social life comes at Elisabeth's request. He takes on the problem in his last book by 'inventing' a realm of social meanings; between the neural movements of the maintaining body and the pure cogito sits, among other volitions, love, hatred, desire, joy, and sadness. Out of these passions of the soul, through joy, we attain generosity, the highest, noblest form of virtue. In *The Passions of the Soul*, Descartes elevates generosity as a kind of irreducible moral source of social life, that which connects the high source of reason with the physical world.

We might think of Descartes' ideas of generosity as akin to the way in which Norbert Elias (2000) understands the word 'civility'. Civility refers to social conventions, psychological and emotional and social manners and habits that bring order and harmony to human affairs. For Elias, ideas of civility and the civilizing process were launched by Erasmus of Rotterdam (Butterfield and Watson 1981); Civility underpins both local familial, communal and global political stability, and the evolution of the idea of civility/generosity might be identified as the social patterns that emerge over time through the experience of people who are capable of empathy with others, capable of denying themselves short-term gains for the long-term goal of maintaining the social order, gaining the help of others, etc. (Butterfield and Watson 1981). Martha Nussbaum sees these (necessary) social underpinnings as the 'cosmopolitan emotions' that underscore human social interaction at many levels, and which through history alternatively been called benevolence, sympathy, empathy, compassion, words that have been used interchangeably through philosophy (Nussbaum 2001). What Descartes calls *générosité* has itself been translated as both 'generosity' and 'nobility' (Garber 2003); he defines it as:

. . . true generosity, which causes a man to esteem himself to the greatest degree which is legitimate, consists solely in this: partly in his understanding that there is nothing which truly belongs to him except his free control of his volitions, and the only grounds for praise or blame are that he uses it well or badly; and partly in his feeling within himself a firm and constant resolution to use it well – that is, never to lack the will to undertake and carry out whatever he judges to be the best. To do this is to pursue virtue perfectly (Descartes 1985, p. 384).

While stingy with his recognition of the social sphere, how Descartes uses the words ‘praise or blame’ opens an interpretive door. Descartes himself may be uneasy about letting divine virtue descend to the social sphere, and he may not have the language to recognize the Other as the necessary component of social interaction. Nevertheless, we find Descartes here making a crucial distinction: our conception of ourselves is not only the degree to which we can control our desires, but the grounds on which we acquire praise or blame through social action (generosity).

Descartes would have seen generosity as emanating from out the realm of divine, epistemic benevolence, a god-given and universal quality of the immortal soul that engages in the social sphere to gain praise or blame. In contemporary thinking, generosity/civility/compassion are effectively the shared understandings with regard to the needs of the Other and constraints on violence (Elias, Dunning et al. 2000); these are interrelational responses born of the empathic imagination combined with social experience. Tribal, clan-based, national patterns of care and loyalty and the recognition of the dignity of individual human life are taught to us by and through the various discourses of our social worlds. The visions of the social good—of generosity, benevolence, and compassion—are seen to be instilled along with whatever habits and practices of belief support them. Their communicative and intellectual significance does not happen on the internal plane of consciousness, but are social functions, created in interactional speech and gesture. The critical point here is that Descartes sees these passions as conjoined meanings (social emotions) created by body and soul.

This study views the misreading of Descartes as a misstep in western philosophy, and that has importance to us for a number of reasons. For one, Descartes and Elizabeth bring us to the vista in which we see social meanings—importantly, generosity—as actions of body and body-thought and mind. What this would seem to indicate is, that even in the First Philosophy, the body is engaged with the social realm, even if the ‘mind’ sits in a pure sphere of judgment above it. These social volitions are aspects of body-thought and include the necessary public values defining words such as civility/generosity, etc.



Above: A teacher engages the eyes of a pupil (Vas 1969). “The moments of the parental look, from its initial misunderstanding of the shifting asymmetries of attachment, from its objectifications to the reclamation of subjectivity through mastery of sign and language, are also essential phases in the dialogue between teacher and student that we call pedagogy” (Grumet 1988, p. 106) For Descartes and Elizabeth, over the extended gaze of letters, the body and mind together define volitions that include generosity, love, hatred, and other mutual states. The recognition of social, relational values as body-thought would seem to imply that attempts to divorce curriculum from physical contexts and conditions might mean that the higher orders of cognition become sterile outcomes rather than possibilities generated by the actual ‘design’ of our humanness.

While we make the above distinctions about social emotions and civility, at the same time, we also have to allow for what Adorno and Horkheimer call the Dialectic of Enlightenment (Horkheimer and Adorno 1972). If we acknowledge the civilizing process and the social harmony brought on by generosity, empathetic imagination, we also have to acknowledge that modern western civilization is also a history of barbarities, of violence on a once unimaginable scale. We have to make the Hobbesian, Nietzschean concession that revenge, whatever its origin, is also a social function and will be a constant companion to human life. As long as there are no ‘blissful islands’ anymore to retreat to for our joyful and cheerful seriousness, as long as there are hotspurs like Medea and Hamlet, for example, who cannot accept their defeat. Rivalry will drive some to violence. And we must concede this point: there are limits to what generosity/empathy/ compassion can resolve in social life. If we are to build, say, a new curriculum based on the social foundations of caring, generosity, compassion, empathy, and the respect these states hopefully bring, we also have to recognize that there are acts these social meanings cannot confirm. In some cases, we have to simply accept that there are personalities

who reach states too extreme for the social meanings of justice and compassion to contain, and accept this as not the realm of theatre or literature alone, but a pervasive part of human society expressed as violence, bigotry, and warfare. Descartes' precocious student Elisabeth herself struggles with the origins of these things. In one letter to her cherished teacher, a letter in which she laments her brother's conversion to Catholicism, she writes,

I have trouble persuading myself that we have always more good in life than evil . . . There are an infinite number of errors for one truth . . . there are so many persons with the design and power to do harm for a few who have either the design or power to serve. In the end, all which depends on the will and the heart of rest of the world . . . I would be much eased to see those which you would give to someone who, in living only for oneself . . . does not neglect to work for others, that is, if I dare to ask you for more light (Creese 1993; Nye 1999, p. 79).

Even conceding these points about the possibility of social meanings generated out of violence and retribution, or despair and illness for that matter, this does not appear to change the tradition of thought which founds social organisation and relationality in generosity/civility/compassion: Descartes suggests generosity is the highest expression of virtue, a volition born of the conjoined sensations of body and mind. This high placement of generosity is not Descartes alone. In one way, it defines the tradition of the relationships of care and trust which define social networks, from pre-history to our own time.

How does this historical investigation relate to educational practice today? The identity politics of, say, William Pinar places respect and care for the individual difference as central to pedagogy (Pinar 1994). Likewise, Noddings' Care Theory (Noddings 1992) sources the well being of the child—in needs and wants—as central to creative, expressive, aesthetic environments wherein we develop. The questions before us is, how much of caring is constituted by language? How much belongs to the body and body-thought? For Levinas, for example, we cannot truly come in contact with another's face without either recognition or denial (Levinas and Nemo 1985). In recognition are understanding, generosity, and knowledge; in denial is an extension and re-creation of pain and violence. Recognition happens, at least in part, through the visual modality of meaning making centered on the physical reality of the human face, in the face-to-face. Face-reading then would become one of the literacies on which the foundations of higher orders of knowledge and un-confused judgment are built.

This relationship between the constitution of recognition as a tension between epistemologies of body and mind requires us to consider the sources of care and moral virtues. Descartes and Elizabeth's realization of the nature of generosity can be illustrated in other ways. For instance, Aristotle leads us early on to a critical understanding that the mature individual comes through experience with recognition to base their reasoning and judging on emotional and social foundations. These foundations include not only the self-organizing emotions of survival and self-interest, what Descartes called the 'animal spirits', but include the social meanings that allow us to physically attune ourselves to the aspects of relational life that bring us toward the higher valuations through recognition of the Other—generosity, pity, friendship, recognition of our brotherhood and sisterhood with those who experience both good fortune and bad (Aristotle and Kennedy 1991). Through the tradition of Augustine, Rousseau, Hume, Smith, Tocqueville, up through Rawls and Nussbaum and today's educationalists have put forward what we might call the relational view: principles of social meanings that include generosity, pity, compassion and sympathy and are the range of qualities education should represent. Nussbaum makes this point quite clearly as well, and in relation to children's lives:

Compassion will be a valuable social motive only if it is equipped with an adequate theory of the world of basic goods, only if it is equipped with an adequate understanding of agency and fault, and only if it is equipped with a suitably broad account of the people who should be the object of an agent's concern, distant as well as close. These judgments must be engendered through a good developmental process. On the other hand, compassion supplies an essential life and connectedness to morality, without which it is dangerously empty and rootless. In central cases . . . compassion embodies correct evaluations and directs our concern to all who share with us a common humanity. Learned in childhood relationships, these connections are important in making morality discerning rather than obtuse. Thus compassion is a needed complement to respect . . . (Nussbaum 399).

If we allow that caring, generosity, civility, and compassion are critical foundations of social life, and that these social foundations are constituted by the recognition of the Other, partly in the social interaction of public life (face-to-face), we come to the problem of whether or not these social values are adequately constituted by and comprehended through language and textuality. If it can be shown that these social values are constituted within and by the communicative body, as body-thought aestheticized in emotional sensation, as desire, as joy and compassion and civility, constituted in the face-to-face, this further brings us to the problem of this study: Are Descartes' 'generosity' or, for that matter, Smith's 'innate sympathy',

communicated by the body? If so, do we have an adequate vocabulary for how our faces or gestures are understood as communicative acts of generosity or the values that many current educational programs call ‘moral virtue’ and ‘character’?

The very idea of Cartesian Duality—the misreading of Descartes and Elizabeth’s discovery of the body as the source of social meanings—can be read in light of contemporary theories of subjectivity. Many theorists and academics, such as Chomsky and Pinker, see language as the critical technology that defines humanness (Chomsky 1968; Pinker 2002). The technology of language is the engine of cultural evolution. At the same time, another school of thought has begun to emerge that has implications for learning and teaching arts and sciences. For Antonio Damasio, theorizing a nonverbal self at the center of subjectivity allows us to see the process by which we come to the external field of language as a means of representation, but language not as the sole arbiter of relations:

The metasef construction I envision is purely nonverbal, a schematic view of the main protagonists from a perspective external to both. In effect, the third-party view constitutes, moment by moment, a nonverbal narrative document of what is happening to those protagonists. . . . Humans have available second order narrative capacities, provided by language, which can engender verbal narratives out of nonverbal ones. The refined form of subjectivity that is ours would emerge from the after process. Language may not be the source of the self, but it certainly is the source of the ‘I.’ (Damasio 1994, p. 243).

Damasio’s conception of a part of self as a nonverbal, metasef that engages with language in order to refine and unify the conceptions of consciousness is something we will need to explore. The process might be seen to involve language as creating a kind of external field on which our feeling-body-core can reflect on symbols and thought, and this reflection and self-reflection is what Donald calls the ‘cultural matrix’.

Language cannot explain thought at any level. . . . More important, language cannot even explain the existence of verbal thought . . . it cannot explain our own innovative uses of words and other symbols or our ability to judge their success. In every case thought is the arbiter, and language is the child of thought, invented in the service of thought, employed forever as the amplified and mediator of thought. The human mind is infinitely wider and more supple than all its languages and symbols (Donald 2001, p. 277)

At this point, we are not only not out of the woods, but have only just wandered into them. Descartes and Elisabeth have posed problems about the nature of the thinking-body and the social realm in ways that we have yet to resolve adequately. At the same time, Descartes and Elisabeth articulate one of the key propositions or questions at the heart of this investigation: How do we communicate Descartes' third class of passions and their relation to the epistemic realm of generosity? Can it be argued, in light of recent recognitions of the nature of subjectivity, that linguistic orders of thought and mind do not adequately convey the social spaces created by body-thought, what Damasio calls the feeling-body-tones? Descartes, of course, would not have suggested that anything could happen outside of linguistic representation. Likewise, many contemporary linguists would have it that language alone conveys the possibilities of human experience (Chomsky 1968). For Descartes as well, the body would not have been seen as a reliable, informational system of epistemic states. Or would it have? In one of his late letters to Elisabeth (October or November, 1646), Descartes raises the possibility of the 'inner voice' as participating in the creative, epistemic states that shape life's fortune:

. . . I even venture to think that an inner joy has some secret power to make Fortune more favourable. I would not care to say this to persons who possess a weak mind, for fear that it would lead them into some superstition. . . . Nevertheless, I have countless experiences . . . to confirm my opinion . . . What is commonly called the 'inner voice' of Socrates was undoubtedly nothing other than his being accustomed to follow his inner inclinations, and his believing that an undertaking would have a happy outcome when he entered upon it with a secret feeling of cheerfulness, but an unhappy outcome when he was sad . . . (Descartes 1984, pp. 296, 297).

Sources of the Communicative Body

Chapter 4. Interfield 1, Part 2: The Body as Source of Social Values

The honoring of soul, creativity, spontaneity, and play have given way to an almost complete monopoly of practical skill-based knowledge . . . The goal of most of modern education is to define all aspects of human teaching and learning to such a precise degree and with such technical proficiency that education can be totally controlled from entrance to exit by the vested interest of the modern industrial-technocratic-political complex. This conceptual orientation has become so much the orientation of modern education that the only real opportunity for deep holistic learning is when one exits the system intentionally or by accident or through failure (Cajete 1999, p. 175)

Immediate questions arise when considering Descartes and Elizabeth's letters and how western thought might have submerged knowledge of an epistemological body. Can we find these dynamics in other historical contexts? How do other cultures at other times understand the social dynamics of non-linguistic communication? Here, it is imperative that we understand the dangers of historical method. Historical method and approach might be seen as propagandist, or function as a way of illuminating contemporary beliefs and practices through the use of a particular kind of bias. In other words, history presents so varied a field that one could go back and find evidence for just about any social practice. One way to escape issues of bias is through using the scholarly criteria of comparative analysis, a kind of triangulation through comparative study of diverse cultures, their approaches their educational theories and practices (Lowe 1989). It would appear to be imperative at this time not only methodologically, but in practical senses. As present-day economies and cultures of the world grow together, drawn together in part by communication technologies, multicultural approaches to both history and education become crucial in upholding the features of human rights and the value of respect for varied approaches to questions of communication and learning.

Jared Diamond's thesis on historical development lays some of the groundwork for this approach (Diamond 1997; Diamond 2003). European and Eurasian development can be explained in a synthesis of history that shows how east/west migration along with dense populations of competing cultures can drive technological and cultural evolution in ways that explain the movements of history without resorting to racist narratives. In other words, western culture's technological 'advances' since 1500 AD do not reflect intellectual or cultural prowess, but environmental and social factors. The racist narratives which continue to plague our political cultures notwithstanding, Diamond's reading of history allows us to consider non-western practices not in a racist or Euro-centric darkness, but with an appropriate sense of awe. What follows here is a brief comparison of a non-western educational tradition in order to illustrate that the communicative body is not an isolated, western experience misread by that same tradition. Aztec culture, as one example, can provide an interesting and serendipitous contrast in which certain goals of education might be said to be generally the same, while the cultural practices used to achieve these goals are quite diverse. And to that point, the metaphors of Aztec poetry can be seen to articulate the same phenomena. The face is a canvas on which certain important features of social education are written. This does not have only to do with intelligence, likeability, or the perception of ability, but it has implications for our understanding national and ethnic identity, codes of conduct, and the reification of cultural abstractions written on the body.

The past of non-western educational practices is in some ways more difficult to encompass than its European counterpart, particularly with regard to the pre-colonial period. Before the intellectual markets of the world were flooded with print from the invention of reproducible type, oral traditions employed narrative, ritual, song, rhythm, chant and movement as the way to convey the stored knowledge of elders, griots, grandmothers and teachers, a knowledge not easily accessed by scholarly investigation. Early American literature is, for example, a kind of broken arrow. Native Americans were by and large an oral tradition that did not record their history. What we do have are tablets, the ruins of great cities, and the record that began after the white invasion. For instance, when Columbus landed, there were more than 350 distinct languages being spoken in the area known as North America. Thousands of distinct social and political groups were spread across the land, and so there is not a single "identity" of Native Americans. Some lived in warring tribes; some, peaceful tribes. Some shared their hunting grounds, some protected them with vengeance. The point here is that the stereotypes handed

down to us through movies and dime store novels cannot come close to providing us with a clear understanding of who these people were. One investigation that does provide a glimpse of non-western educational traditions is Timothy Reagan's 2000 study, *Nonwestern Educational Traditions* (Reagan 2000). In an overarching way, what Reagan's study reveals is that the principles of education in western and non-western thought share certain principles and goals, though diverge in practices.

For example, European, African, and Mesoamerican ideas about education all can widely be shown to surround the concept of character, what might also be referred to as virtue, citizenship, respect, etc. These concepts have been called various names and have been seen to exist in various guises, and, as noted in the previous chapter, for the purpose of self-discipline and social control, learning the rules of grammar, say, or numbers, are often seen as secondary to disciplinary measures of educational practice. Whether 'character' is a spiritual possession of each individual, a latent, human characteristic that needs to be developed, or a mechanism by which education involves itself in social control is a contradiction often unresolved within the theory itself.

Nevertheless, these goals overlap with a good deal of writing on educational theory, African, Aztec, and otherwise. For instance, some of the earliest European theory surrounding education is Locke's *Some Thoughts Concerning Education*, which he composed as letters to Edward Clarke between 1679–1685 (Locke and Garforth 1964). For Locke, the prime aim of education is “. . . virtue, then, direct virtue, which is the hard and valuable part to be aimed at in education” (Locke and Garforth 1964, p. 103). While Locke's language here betrays what might be seen as a level of abstraction greater than the scientific vocabulary of Descartes, questions remain for all of these conceptions of education's goals. If virtue/character/generosity are principle aims of education throughout the human world, how is that goal achieved? Is it achieved by learning alone? Can linguistic education – chalk, talk, and text -- successfully convey the vicissitudes of character? The pedagogic practices by which we instill virtue, character, and generosity diverge a good deal, school by school and culture by culture.

As an example of this divergence, Aztec educational practices in the historical range of 1300-1650 demonstrates three, central differences from the European: 1) Aztec curricula included

musical renditions of social knowledge; 2) in Aztec culture, boys and girls were schooled together; 3) for the Aztecs, the body as a site of ‘the self’ appears to a central outcome to ‘the educated man’.

Aztec Civilization flourished in Central America for roughly four centuries and had a complex social organization that included various means of education. It, too, had as one of its principle aims the development of a virtuous person (Reagan 2000). While it is important not to sentimentalize pre-Spanish Mexico, the core values of Aztec society do give us a comparison with which to more accurately understand the copious, textual history of the ‘European World System’. For example, there is evidence that Aztec boys and girls shared formal schooling in the *cuicacalli*, the ‘Houses of Song’, between the ages of 12 – 15. This is the first, historical citation I have found of co-educational schooling. These Houses of Song gathered the children together in the hour before sunset, after the day’s labor had been completed. Attendance was compulsory, absences punished; run by elders, the Houses of Song taught the songs, orations, and chants that described the Aztec cosmos, the creation, the migrations; in short, in song, the young would be instructed in cultural heritage and the symbolic orders of their world in order for them to understand the range of appropriate actions (Reagan 2000).

Another contrast between Aztec and European ways involved the education of girls. While formal, co-educational schooling ended with the rhythms, songs, and myths of the *cuicacalli*, with the boys going on to military training, the girls moved on as well, with schools of their own:

. . . within the houses, where the ladies were in their quarters, the girls were taught all the different things women do: sweeping, sprinkling, preparing food, making beverages, grinding (maize), preparing tortillas, making tamales, all the different things customarily done among women; also (the art of) the spindle and the weaver’s reed and various kinds of embroidery; also dyeing, how rabbit down or rabbit fur was dyed different colors. And in the same way (as with the boys) those who did something wrong or did not take care were severely punished. And they were all well cared for: no men, no matter who, entered there; taking care of them was the exclusive domain of the elderly noblewomen . . . And the commoners were raised in the same way; the youths were raised in the school at the youths’ house, and the girls at the women’s temple, were the female penitents were enclosed and fasted (Fagan 1984, p. 72).

If European education and Aztec education shared some aims with respect to instructing young citizens in social codes and ideas of virtue, the practices themselves are quite diverse. Where Elizabeth – a woman of retreating European nobility -- schooled herself through the republic of

letters, Aztec girls would have had their own schools. These practices might or might not have had the care and success of females as their aim, and this study will not venture down that road. The point here is that through a review of Aztec practices, we find that the transmission of cultural and social values might be said to be a shared aim of education in both cultures. However, contrasting the methods and practices turns up some interesting evidence with respect to how these codes were transferred. A further contrast between European education and that of the Aztec's might be illustrated a reading of an Aztec poem -- *Face and Heart*:

In omacic oquichtli,

Yollotetl, yollolaquavac,

Ixlamati,

Ixhyollo,

Mozcalia.

The mature man

Is a heart solid as a rock,

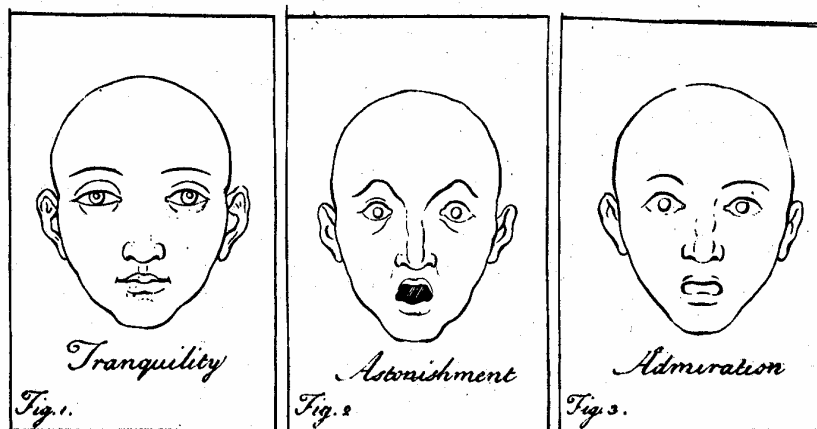
Is a wise face.

Possessor of a face, possessor of a heart,

He is able and understanding (Reagan 2000, p. 67).

If Aztec and European practices differ in ways, poetry can be said to be a related method, and this is not a surprise. No human culture has been known to exist without poetry, itself a combination of the linguistic forms and non-linguistics channels of rhythm, intonation, and gestures. In any case, I will here resist the urge to consider the aesthetic concerns within the Aztec poem face and heart, which might be said to involve didactic technique. At the same time the thematic content of the poem is compelling for this study's argument: As we have seen,

Aztec and European principles share the idea that education provides the social order with the virtuous 'Man'. In the imagery of Aztec poem we see a critical difference: The possession of knowledge is located in the body, and not simply in knowing the language of social codes and appropriate action. The shape of the words, in other words, is determined by physical entities: the organ of the heart, the 'possession' of a face. The Aztec poem does not make claims about a particular human nature, but on the transformation of the individual. Maturity is not a matter of age, but a matter of how the body learns to carry 'wisdom', and how the individual subject possesses that knowledgeable body as 'face' and 'heart'. In other words, the Aztec poem 'Face and Heart' lends some evidence to the idea that language alone does not explain some knowledges or virtues. Knowledge and virtue, at least in the case of this poem, had to be possessed within sense-giving organs (heart) and an attribute of an individual nature (the face).



Sketches from the English translation of Le Brun's (1698) *Methods to Learn and Design the Passions*. The drawings are exact copies of Le Brun's originals, done perhaps by Sir Hans Sloane or John Michael Williams (Le Brun 1734).

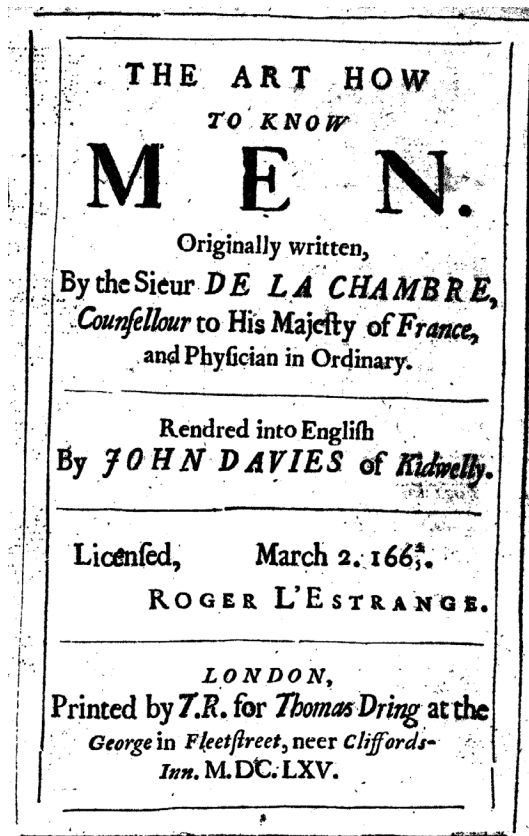
Is the theme of the Aztec poem a distinct epistemological stance from the empiricist, mechanistic and rationalist orders rising in Europe at the time as the Aztec tribes build an empire in central Mexico? We might suggest that if the Aztecs, or Descartes and Elizabeth, had come across a knowledge that was false (like Mesmer or Galt, for example), it would disappear

or enter into the halls of quackery and quirky, sterile turns of human discovery. However, the submerged knowledge of the communicative body appears and reappears and transforms and evolves such that its history reveals a way to see current practices in new ways. For instance, the understanding of body-thought takes a curious turn when it travels the short distance from Descartes in Holland to Charles Le Brun in France. Descartes' system for defining the passions is not lost, *per se*, but is transfigured into aesthetic theory.

In 1668, Charles Le Brun delivered an address—*A Method to Learn to Design the Passions*—to the Royal Academy of Painting and Sculpture, an academy he himself had helped form during the long reign of Louis XIV. Le Brun's educational lecture on physiognomy builds on Descartes' system for the passions and exists as one of the first attempts to organize a scientific discourse around the communicative abilities of the human face. The initial purpose of Le Brun's discourse was instruction of young artists on how best to represent the body, the face in particular, in painting that captures the spirit of the age. Le Brun argues emotional expression

Is necessary, and enters into all the parts of painting. A piece cannot be perfect without expression: it is what stamps the true characters of every thing: it is by this we distinguish the nature of Bodies; that figures seem to have motion; and that whatever is feigned appear to be real (Le Brun 1734, p. 12).

In his discourse, Le Brun (1619-1690) adopts the polemical tone of his time. "So many learned men have treated the passions, that nothing more can be added on that subject: nor would I repeat their opinions, but that, for the better apprehension of what concerns our art . . . " (Le Brun 1734, p. 12) While Le Brun is more than likely referring to Aristotle, Aquinas, and Descartes, in truth very few people had made explicit connections between inner states of feeling and the outer signing of the muscles of the body. He builds on what would have been Descartes' very recent findings regarding the physical substance of the body and its connection to the non-physical entity of the soul (which both men would have seen as located in the pineal gland). In this way, the curious subject of physiognomy—as a European science—can be seen to be linked to the understanding of the body-subject and the meanings conveyed by the face.



Up until Le Brun, European physiognomy was thought of as a parlor art, and the subject peopled by what might generously be called Renaissance Men. In 1556, Thomas Hill, an Englishman, published *A Brief and Most Pleasant Epitome of the whole Art of Physignomie*. In Italy, della Porta was at work on *Human Physiognomy*, though the biggest influence on Le Brun would have more than likely been a fellow Frenchman, de la Chambre. La Chambre wrote a series of books, one called *Views, Observations and Conjectures about the Rainbow*; another called *Kinds of Knowledge*. His contribution to physiognomy, *The Art of How to Know Men* (1665) follows a broad and what might be termed intuitive approach to 'the new science'. Emerging out of the Middle Age feudal arrangements and the domination of Latin Christianity, de la Chambre's work on how to know men tries to move toward seeing in the face the designs and patterns of nature, rejecting the 'opinions of men'. While this might be read as an

understated rejection of the influence of priests, bishops, and nobility on social life, in de la Chambre we find an early expression of attempting to find organic meanings and natural signs in the body. Abstract judgments, opinions, and the evaluations of others stands in contrast to the natural meanings inscribed on the flesh. How could we begin to construct a way of knowing human beings without resorting to the opinions of others? De la Chambre suggests, among other methodologies, that a comparison with Woman might be a place to start, since “there being not among Animals, any that hath a greater resemblance to the Man, than She” (la Chambre 1665, p. D3). A comparison with Woman would establish what is natural to Man, by the designs and orders of nature. What follows is effectively a list of the parts of the body and whether they are bigger, longer, thinner, ‘more lively’, rounder, etc, than the female gender. This pre-scientific approach may not be long on enduring categories, though it does suggest that the connection of human life with nature, as well as abstract ideas of civic virtue and exemplary national character, appear early in the printed material of literate culture (Lukasik 2004).

In La Chambre’s work, *The Art of How to Know Men* (1659), physiognomy had yet to shrug off the cloak of quackery. Strains of pagan astrology and the charlatan’s art peppered the graphics of La Chambre’s art, and La Chambre was by and large unable to convince anyone of the reliability of it (Barney 1999). At the same time, it lays the groundwork for Le Brun and, later, Lavater, who begin to compile their encyclopedias of physiognomy with the intensity required of ‘science’. Both can be located as the historical moments when the symbolic and communicative content of the human face leaves the province of the European aesthetics alone and for the territories of science. As science, physiognomy rejects, in a way, the Lockean position that “everything in Man depends on education, culture, example—and not on original organization and formation; these are universally the same” (Lavater 1862, p. 151; Barney 1999). Against Locke’s epistemology of education, in their search for the ‘universal’, identifiable expressions within the human face, Le Brun and others began the arduous task of originating meaning in the alignment of the inner self with the outer body.

The Passions

In his discourse to the young artists of France, Le Brun effectively applies Descartes dualism. He suggests that the passions of the soul are expressed as motions of the body, that the soul must produce some corporeal action. Directly reflecting Descartes ideas, le Brun writes,

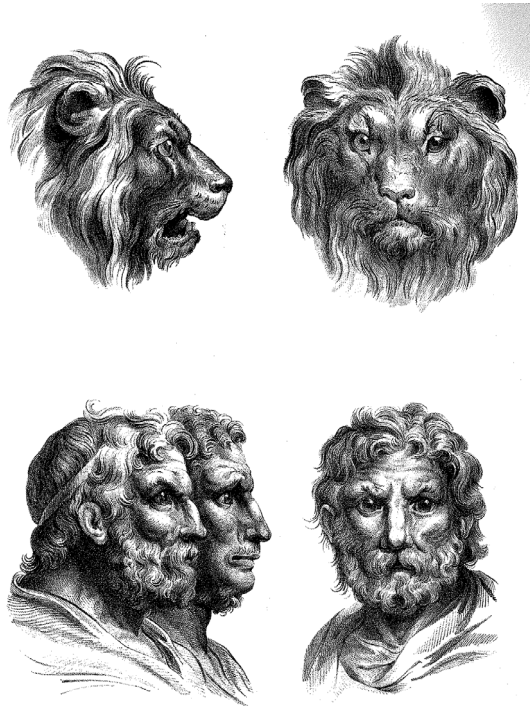
Action is nothing else but a motion of some part, and motion is made only by the elasticity of the muscles, which receive their motion from the nervous juice which passes through them. The nerves act only by the spirits contained in the cavities of the brain; and the brain receives the spirits immediately from the blood, that passes continually through the heart, which heats and rarifies to so, that being straight conveyed to, and filling the cortex of the brain, a certain fluid juice is there produced, called Animal Spirits (Le Brun 1734, p. 13)

Le Brun is attempting to bring the philosophy of the emotions to the skills of the painter, and in doing so shows the great versatility of the pseudo-science, physiognomy, to be reified in service of the arts. This point has consequence for this study in the sense that we acknowledge, from the start, that body-thought is ambiguous, inarticulate. The expressive meanings of the body will be ‘used’ not only for aesthetics, but to define and defend European racism as well. As we will see, the difficulties of primitivism are not easily resolved. Nevertheless, what is compelling is the complexity of Le Brun and Descartes’ deterministic view of the relationship of body and mind, and how it relates to other thinking of the time. That view might be simply stated as: The actions of the body reflect the affections of the soul. And while Cartesian Duality is often seen as the basis for metaphysical follies that follow, in fact it is a rather sophisticated view for its time. Before Descartes, the soul and body might be said to have no supporting relationship at all. Building on Descartes’ natural philosophy, Le Brun suggests the body and soul are related and this will bring the thinking of the 17th century closer to the idea that action, moral conduct; and the body, along with consciousness, are in a relational arrangement. As contemporary theorist Lucy Hartley suggests,

His study of expression represents an attempt to mesh a supernatural theory of mind with a description of its (mind’s) structure or function in the physical world . . . Though Descartes had provided a deterministic model in which purposive actions could be explained through law-like processes . . . there was increasing interest in the 17th and 18th centuries in the notion of reflex, and numerous attempts at conceptualizing the causal process linking sensory impressions with mental and motor response emerged . . . (Hartley 2001, p. 26).

Le Brun not only employs Descartes. His system for designing ‘the passions’ grows out of his studies of composites, his sketches of the passions, and his sketches of animal heads in comparison to human heads. This latter project shares a good deal of similarities with della Porta’s physiology. If the idea that human, expressive reflexes reveal the essence of the soul is a

radical idea for its time, finding parallel patterns in the animal world might also be seen as anticipating later, ecological thinking as well.



Above: A sketch from Le Brun's anatomical studies. In both sketches and his discourses, Le Brun establishes the passions and their attendant expressions as a shared system of codes, not only a communicative tool used by artists. The passions are patterns that can be observed in many species, in many faces, a part of nature and a part of us (Le Brun 1734).

In the Visual and Performing Arts

More than sixty editions of Le Brun's discourse will be published in the century that follows his first delivery of it. And his methods for how to represent the passions in painting and sculpture turn up in the paintings of both unknown and known, in particular Sir Joshua Reynolds and Hogarth (McKenzie 1980). Since portrait painting and (a bit later) silhouettes were such powerful symbols of social, class, and national distinction, Le Brun's influence in art expands to definitions of how well or poorly we express the right passions in the right places: veneration, sadness, love, fear and hatred, and pain are all given shifts in the lecture. As Le Brun designed

book covers for the plays of Louis XIV's artists, including Corneille (1647) and Racine (1697), Alan McKenzie suggests that Le Brun's long reach extended into performance art as well (McKenzie 1980). His new comprehension of the passions also influences actors like Betterton, Hill, Cibber and Wilkins, who all used Le Brun's scheme as helpful in representing real states of feeling to an audience. Betterton, in *The History of the English Stage*, a book arriving seven or so years following the translation of Le Brun's passionate scheme in London, instructs:

Your Eye-brows must neither be immoveable, nor always in Motion: Now must they both be rais'd on every thing that is spoke with Eagerness and Consent; and much less must one be rais'd and the other cast down; but generally they must remain in the same Posture and Equality, which they have by Nature, allowing them their due Motion when the Passions require it; that is, to contract theses and frown in Sorrow; to smooth and dilate themselves in Joy; to hang down in Humility, etc." (Betterton, Oldys et al. 1741, p. 98)

And as both the 17th and 18th centuries progress, Le Brun's method to design the passions is referred to not only in aesthetic theories of painting and design in France, but turns up in the thematic concerns of novels. Brackenridge's *Modern Chivalry* and Sterne's *Tristram Shandy* both put physiognomy and the 'language' of the face as central themes of novels (Sterne 1985) (Brackenridge and Newlin 1962). Across the channel in England, Jonathan Richardson's "Essay on the theory of Painting" (1725) celebrates Le Brun's method, as does Joseph Spence in "Crito: or a Dialogue on Beauty" comments, "If you would rather have authorities from the writers of honest Prose, Le Brun says that the principal Seat of them is in the eyebrows" (McKenzie 1980, p. vii).

And while Le Brun's influence is well documented in both literary and visual arts, he interests us here because he touches on themes of the body and non-linguistic expression as centers of educational practice. The more-than-one-hundred muscles in the face convey a vast amount of information, not only about an individual, but about the social group, and the way a social group instructs, sanctions, and persuades both individual and group to exhibit necessary social emotions such as caring and loyalty and 'love' of beauty. By way of comparison, whales have a language of about 90 sounds, and elephants a language of about 40 sounds. Neither the whale nor the elephant languages have much rhetorical value. In the face alone, humans possess 'more than a thousand' blends of expression, non-linguistic signals, symbols and cues (Ekman 1993). Some of these cues are 'the passions', and Le Brun is suggesting that this (submerged)

knowledge be assimilated into the arts. He is concerned, like Lavater, Bell, Hegel, Duchenne, Darwin, Freud and Ekman after him--the conceit of all philosophers--with acknowledging universals. And while philosophy and its restless children—physics, chemistry, and psychology and others—have yet to actually defend any claim of universality, in any field at all, Le Brun believed there were universal expressions of passions that can be demonstrated by showing that we share certain things with each other and with the animals. And his thinking—in sketches--is clear enough. If all living creatures can be shown to have joy or fear or pain, it would follow that joy, fear, and pain are universals, from an *ur-source*. Defining these universals would lead us back, in time, and with sound progenitors, to primeval patterns.

National Identity

Le Brun became ‘First Painter to the King’ in 1661, a position he would hold for 22 years. He would parlay his place beside the king into a far-reaching influence on art and design in French culture (Gareau, Le Brun et al. 1992). With Le Brun’s genius behind it, Louis XIV’s court (1643 to 1715) is seen as founding the rise of French dominance in art, culture, and philosophy. It is unclear how much the King of France himself helped out with supporting the arts, though he had patronized Racine and Moliere. What is clearer is that Le Brun shaped the King’s wishes for renown to his own artistic goals, establishing the Academy of Painting and Sculpture, enlarging the Louvre, and decorating both the Louvre and Versailles (among other royal palaces) after his own detailed and discipline tastes.

Le Brun’s position in the court of the king is not a trivial matter. Melissa Percival, Christopher Lukasik, and others have ably shown how notions of national character, identity, and the emerging nation state are not simply a matter of a single language or cultural, linguistic codes aided by the rise of the printing press (Lukasik 2004). While monolingual cultures and the dissemination of standard knowledges purveyed by books play a central role in this process, the study of how and what the face expressed, the structural features of the head, and face (in addition to monolingual culture) represent social and ethnographic distinctions which may have been backgrounded to the force of literary history but are nonetheless as influential as, say, dialect in founding national boundaries of identity. In other words, nationalism gives physiognomy a reason to leave the parlors of quackery and the charlatan’s lair. Human culture suddenly had a need to find ‘universals’ in the communicative features of the face. In effect, the

artists, politicians, physiognomists, and phrenologists of the 18th century invent the category of *race* in order to provide evidence for a new metaphysics, which “speak of the entry into full self-realization of a unitary subject known as the people” (Eagleton, Jameson et al. 1990, p. 28). ‘The People’ are not only be defined by the language and dialect they speak, not only by the books they read, or the style of dress, but now by the reflexes of a ‘language’ written on their face. The need for the new subjects formed by the metaphysics of nationalism need to express freely, to realize themselves as a particular ‘passion’, in order to repress what came before them. This same metaphysics also required the ethnic and personal features characteristics of a particular culture to be identifiable. And while it is been argued that nationalism was driven, in a lion’s share, by the printing press and the establishment of dialect and monolingual culture, we might also suggest that the visual-symbol-culture of the medieval church is never far off; that images in portraits, silhouettes, caricatures rise to the level of symbol that also define national character as well as a standardized vocabulary. The ‘skills’ by which this visual culture reinforced the paradise promised by the Christina ideology do not go away, but are transcribed into the arts. Not only nationalism, but formal considerations of ‘beauty’ also greet the dawn of the nation state.

Le Brun’s lecture on the passions would suggest that national character also had a certain emotional or passionate palette as well.

Thus it is plain that admiration may be joined with esteem or with contempt, according to the grandeur or meanness of the object. From esteem proceeds veneration; as from contempt, disdain. . . But when an object is represented to us as worthy our regard, then are we induced to love it (Le Brun 1734, p. 16).

The idea that there is a set palette of emotional and passionate displays reflects the need for care and loyalty to the physical features of the (national) tribe. Pro-nationalist thinkers would agree that Le Brun’s contextualizing the passions according to French facial features underscores the “ethno” aspect of national character (Taylor 1989; Nairn 1997). Seen in this light, Le Brun’s scheme, particularly his character composites, represents an ‘organic’ ethos to membership in the cultural group; and while membership in national identity is a social arrangement—both voluntary and involuntary—Le Brun’s schema of the passions longs for a biological underpinning for that membership. Physiognomy, pathognomy, and phrenology, while largely now seen as fallacious, were extraordinarily popular in the days when the boundaries of the

modern, western world were forming. Here we have stepped through to what might be called the opposite of cosmopolitanism: we care for those who resemble us. Following Le Brun, Lavater will go so far as to claim that after the resurrection, when physical bodies are metamorphosed and transfigured into completely transparent clarity in the presence of God, the face will retain its original grandeur (Siegrist 1993). National Identity will even survive death.

Here we begin to see that what Elias Shookman calls the ‘fallacy’ of physiognomy is wrapped up in questions of national identity (Shookman 1993). With Le Brun, we find the curious situation where the ‘truth value’ of physiognomy is in the interpenetration of the symbols of the visual arts with the messages of power regarding national identity. It makes sense that physiognomy as a pseudo-science would create the illusion of truths because rational, ‘clear thinking’ men of social distinction did share certain features in a world where social mobility was low and there were strict taboos on correspondence between classes. The appearance of the Irish pointy nose, or the French space between the eyes or the German curly lock of hair may have appeared to be a testable significant class of events in European society at the end of the 17th and early 18th century. What is more, the civic loyalty of what Habermas calls “constitutional patriotism”, the social and political ties of ethnic groups were successful in the past, and that success would breed moral codes and the ethical memories of the prospering (Habermas, Rehg et al. 1996). This amounts to a complex arrangement of ideas: If character can be read in the features of the body, the recognition of the appearance of these characteristics can be equated with ‘success’ and used as a powerful social mover.

The term “nationalism” has many meanings, and its origins call out to us from out of the deep past of cultural, genetic, and social lineages. Le Brun’s discourse of the methods to learn to design the passions assumes two of the central phenomena noted about nationalism by many theorists: (1) Care: he is teaching the symbol makers of his ‘tribe’ to display a learnable attitude and care about the identity of members of that nation and cultural group. (2) Unity: The expressions of inner states of the members of that nation achieve a form of unity, which by extension exhibits what might be called political conformity as reflected in the passions. If physiognomy is a pseudo science and largely a fallacy, it also taps into and raises questions about the concept of nation or national identity. As we will see quite powerfully with Lavater in the 18th and early 19th century, these issues have the capability of popularizing science in a way that stirs debate about common origin, and moves people to embrace their ethnicity and/or

cultural ties. Le Brun is encouraging, for king and posterity and aesthetic quality, care for the tribe, and care for one's nation and national character. In this way, non-linguistic modalities can be seen viewed as one of the determining features giving rise to the necessary conditions for the nation state; care. Authenticity of membership, submission to authority, and loyalty all follow care in establishing the boundaries of the national group (Berlin 1979; Smith 1991; Levy 2000). Le Brun's use of Descartes and Elizabeth's system for understanding the passions puts the communicative body as an 'utility-value' in the early formations of both the nation state and mercantile capitalism.

In these early phases of the categories of national identity and character formation, as the western world and its nation-states emerge from the dominance of Latin Christianity, Le Brun proposes reading permanent moral character on the face as a way that allows us to care for and have loyalty to the social group (tribe/nation). Where he explicates a 'proper' way to represent emotions in the arts, we now see instruments of civic republicanism, ethnocentric identity, and the continuation of visual codes at the time of the dominance of textuality. This ability to express 'passions' non-linguistically, to exchange important social information through non-linguistic means, is an important acquisition of any childhood in the natural world and critical social knowledge with regard to the arbitrary cultural abstractions such as race and nationality. As Darwin, Ekman, and Turner have all explored, the importance of this information may be one of the evolutionary explanations why the human brain takes so many years to wire itself for language (Turner 2000). We spend the first two years of childhood learning the nonverbal language of gesture and facial expression, an indication that the brain first turns its attentions to the neurological and muscular organization of the face and the social meanings conveyed by the face. Acquiring facial communication skills would appear to have, at first, an instrumental value greater than early linguistic competence. "Preschoolers social competence appears to be associated with the ability to decode emotions" (Boyatzis 1994, p. 40). In this way, for the first few years of life, language skills might be seen to be secondary to nonverbal competence. Seen in this light, compared to non-linguistic communication of character, virtue, generosity, et al, language and reason are relative newcomers to the game of selection and social caring. This disparity might also explain why the performance arts, say, Hollywood and Bollywood, have the privileged status that they do—the parade of beautiful faces of our times across the silver screen is tempting for us. It is almost as if we have no choice; critical reason does not reach the depth of our attention as much do faces and their reservoirs of the passions and how those passions

connect us to our earliest moments: Brad, Jen, Angelina, and Marlene are surrogate mothers and fathers and cultural icons at the same time.

With both the Aztec poem *Face and Heart* and the methods of Le Brun, we begin to see that the literacy of the face and how it displays ‘the passions’ presents a complex form of social knowledge. It establishes certain social codes and communicative patterns. As we will see, as this knowledge emerges through time and the collections of ‘bodies of evidence’ that define and outline the contours of social space, we can emerge from the primitivism of nationalism and begin to see non-linguistic systems take on value and utility required by the capitalist era. For now, for the thinkers of the early western enlightenment, the human body represents a kind of fleshy language, with an alphabet of volitions that are expressed by the smile, the grimace, the raised eyebrow, the frown, the cringe, the dead eyes, the dimpled cheeks, the dancing eyes, the furrowed brow, the scowl, the look of disgust, the puckered mouth, the neutral face, the pout, the protruded lips, the play face, the laugh, the grin, all of these gestures have in ways shaped our method of communicating care and loyalty for the group, and applying this new logic to a classroom, devoid of racial or ‘value-added’ meanings might enable us to begin to define social learning and care theory in new ways.

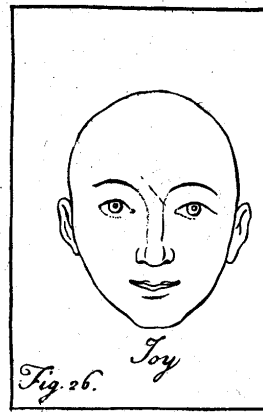
And while the search for universals may be a Hegelian dream, while the fabric of life on earth might be ever changing, in passing on his systems of expressions to the young artists of French society in the court of Louis XIV, Le Brun continued Descartes’ idea that kinetic meanings not only indicate in support of language, but bear types of social knowledge and emotional attunements we might suggest are beside, astride and prior to syntactic structures: “This, Gentlemen, is what I thought necessary to observe on the simple lines I have drawn, that you may the better conceive what I am going to say thereon” (Le Brun 1734, p. 23).

Joy.

IF, instead of the foregoing Passions, Love inspires the Soul with Joy, the motions that express it are very different from those we have remarked on the others: for in this Passion the Forehead is serene; the Eye-brow without motion, raised in the middle; the Eye moderately open and smiling, the Pupil lively and shining; the Nostrils a little open; the corners of the Mouth somewhat rising; the complexion lively; the Cheeks and Lips of a vermillion colour.



LAUGH



Le Brun constructed his method to design the passions partly on Aristotle's distinctions of the emotions in *The Rhetoric*, and partly on Descartes '6 primitive passions' (Le Brun 1734).

Sources of the Communicative Body

Chapter 4, Part 3: Vignette, the Listening Face



Above: A novice teacher listens to a student's narrative about a found artifact. As an example of 'local truth', the Listening Face is the most common form of non-linguistic expression this teacher employed during class (Fieldnotes Oct. 15, 2005).

Background

One of the evidences for this study's claim that body-thought remains a 'submerged knowledge' in educational settings would be an inadequate or impoverished vocabulary for how interrelational spaces and interpersonal reason are created external to semantic values, by

gestures, the face, or the rise and fall of the voice. Why is there no word for the common space between us? If we are to begin dialogue across differences, we need to consider how learned, social values which previously defined tribe, nation, race, gender, etc, are comprehended and communicated. Any loss for words with respect to these interrelational values might not be due to a conspiracy of silence or overt repression or suppression of knowledge. Power-knowledge arrangements grow and evolve through the accumulation of ‘new’ interpretations of signs and the systematized efforts of generations. Human sciences have begun to understand that action, as well as language, changes consciousness. In this vignette, I consider a ‘local truth’: how a novice teacher uses non-linguistic modalities in the classroom and how she herself understands those modalities.

The 20th century brought us many changes. One of those changes was that schools began to carry more of the burden of responsibility for socializing children. As seen by Nel Noddings,

We can deplore the fact that women are now rarely full-time homemakers whose main duty is the care and guidance of children or we can celebrate the freedom of women to choose their own careers. If we choose to celebrate, we can still recognize the problems that have arisen for children. Children need secure, loving relationship with adult caregivers . . . In short, the school must do much of the work once charged to families. The best schools should resemble the best homes (Noddings 2003, p. 260)

Educators who acknowledge children’s need for secure and caring relationships with adults create increased pressures, but also open the door to new interpretations of the teacher’s role. The nature of classroom communication changes: We have become aware of the primary languages of children, of emotional literacy, of the parent’s gaze behind the children’s gaze, of a renewed awareness about safety and harm, and of the rights of students.

As an example of new interpretations on the nature of teacher’s work, as I made my observations in class with a novice teacher, I realized that the Listening Face was a common form of the teacher’s non-linguistic expression. What I mean by the Listening Face is a non-linguistic gesture that creates social space, that recognizes and allows for the self-creation of the student (Salvio 1990).

My understanding of the Listening Face here replicates and echoes what Grumet explored in “My Face in Thine Eye, Thine in Mine Appears” (Grumet 1988). While knowledge about the sensate experiences of gesture, movement, and intonations has often been taken from aesthetic

experience, listening is another way we create the possibility for the political and epistemological significance of the body to emerge in the classroom space. In effect, the common space between us is a place of listening, a silence within. It is not matter, but it is made possible by the matter of the body. It is an embodied space, but it is void of form.

The ‘local truth’ of this novice teacher’s use of listening in that space becomes one way to determine our present moment. In other words, we could argue whether listening had a place in Aztec society or early European education. (The letters of Descartes and Elizabeth required a ‘listening’ of a different sort). The point is that if influencing the lives of others with our own bodies is a function of education--of parent, teacher, and student—one of the ways that the teacher creates social space, as her student reveals the plots of his or her experience, is by becoming not teacher-as-knower, but teacher-as- listener. In this example, the teacher lets the student’s autobiography become privileged knowledge. And this transformational interpretation of the teacher’s place—from authority to carer—is conveyed through the non-linguistic creation of a common space in which the student’s self can emerge.

Context

One of the methods of this study has been to work with both a novice teacher and a ‘master’ teacher. My original research design involved a comparison of the ways in which the novice teacher and the master teacher used non-linguistic modalities in the classroom. But as I reviewed the film and transcripts, I also became interested in how they used very different modalities of body-thought. In other words, comparison was not the best way to reflect on teaching practice. My initial goal of quantifying by external classifications non-linguistic practice in class did not work. Instead, I had to contextualize the processes as local truths, as practice by individuals in a social context.

By way of that context, the novice did not yet have a placement, but was completing a practicum in a low slung, brick building along a thoroughfare cutting through the suburbs outside a major, western city. The school houses classes from preparatory to sixth grade. The current enrolment is four hundred and eighty-six students (in 2005). The students are required to wear uniforms at the school. The walkway to the building is a bricked path with the names of

the headmasters and notables going back many years. The school originated in 1918 in what was then a rural section to the north of the city. It opened in 1920.

The school had been recommended to me by another researcher who had worked with some of its teachers. They had an advanced technology program, and a number of the teachers had come from the industrial/commercial sector before teaching. The school had gone through significant whole school change in the seven years previous to my visit. Using information and communication technologies, it attempted to develop new and authentic ways of learning for students that anticipate the 21st Century. These changes are reflected in enrolments that have doubled that seven years time. The school prides itself on being recognized nationally and internationally for its work in teaching and learning and integrating information and Communication Technologies into its curricula. The school's achievements include being selected as a Navigator School in 1996, selected as an original Self-Governing School in 1999, selected as an Apple Distinguished School in 2000, and selected as a Macromedia E-Learning Consortium School in 2001. The school has distinctive goals in its learning programs and these include: pursuit of academic excellence; respect for oneself and others; appreciation of cultural heritage; Readiness to Embrace Appropriate Change; Individual Growth and Leadership; technological capabilities; importance of school and family relationships; and lifelong learning.

The Teacher:

Teacher A is a novice who has completed her course work for a postgraduate certification for primary school teaching at a major, western university. She is doing a practicum at the above school and working with an established, veteran teacher who has been at the school for twelve years. She is sharing a sixth grade class, and Teacher A has been given the class to take through a lesson entitled "Research and Oral Presentation". The activity has a sub focus of listening and speaking, questioning and answering.

Before the class session, Teacher A and I sat in the staff room at the school and spoke about her expectations and her background with non-linguistic factors in the classroom. Her undergraduate degree was in behavioural science, and it was in that course of study where she first encountered the ideas she has regarding nonverbal communication. In an undergraduate psychology course, she described coming in contact with ideas about proximity and eye-contact.

These concepts were not introduced in relation to the teaching profession. She had first encountered these ideas more than seven years before her teaching certification program. She did not recall any specifics about the course or the teaching of or about nonverbal factors in communication.

In response to a question about whether or not Teacher A has witnessed anything in her current school environment that might indicate a pre-conception of non-linguistic communication, she said, “Boys like to get up and do things. I incorporate that into my lessons. Sometimes I do warm up activities, with distances and directions. I use blind folds and do exercises around giving directions. Actually doing things rather than just talking about it”.

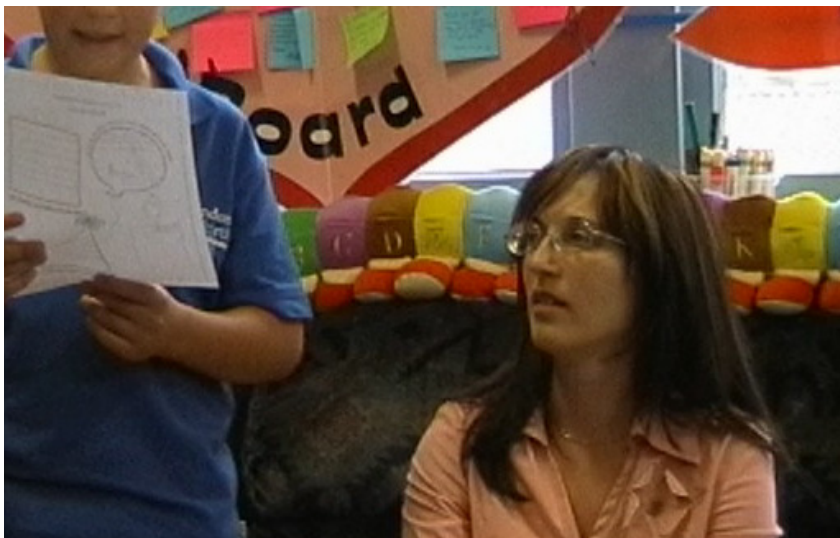
Teacher A felt that girls were more verbal. “A lot of boys articulate things physically. Girls are more verbal.” She also said, “I like to be close and like to be walking around. If they want to share things personally, they don’t have to yell. I was always shy myself in class and had a hard time asking questions. So I like to be close to them, through eye contact and through listening. My feet are killing me because I’m all over the place. It keeps them working. They will tap me perhaps or reach out and grab me as I go by. I make myself available”.

Teacher A had never participated in any activities regarding non-linguistic communication with other teachers from any other school. She did not think of her own gestures and postures as communicating:

Not really. I’m looking at what they are looking at, whether they look unsure or if a kid is slouching or sitting straight up. I think I interpret that. I interpret their nonverbal cues, if I see funny facial expressions or frowning. Some switch off entirely and let their minds wander (Fieldnotes Oct. 15, 2005) .

Findings:

I studied various aspects of the teacher’s performance in relation to the one hour film I made of her class performance. Further findings are included later in this study. For now, I am considering the fact that the teacher exhibited a listening face as her most consistent and constant non-linguistic message in her classroom demeanor.



Above: In the Consequence Phase of the class, the students presented their findings (Fieldnotes Oct. 15, 2005).

To this observer, the picture above reveals a space of subject-to-subject interaction, a visual image that defines the social field. The teacher is engaged in creating the ‘silent part of speech’, which falls outside of modes of narrativity and description (Freire 2000): We might suggest in the above image that the teacher, by looking up, is involved in a kind of estimation of the student’s place. The student becomes authority, taller than the teacher and assumes the role of ‘possessor of knowledge’ in autobiographical language while presenting their work. The teacher creates a mode of non-linguistic relationality that creates the possibility of learning from the Other. She re-constitutes the ideas of listening/recognition/empathy/respect. In family life, the parent is also a source of listening, even when the child is relating something of no concern or even an affront to the parent. Children come home with bits and pieces of a culture that the parent might not be able to relate to or a plot for a story the parent does not know. A ‘good’ parent develops the patience to listen so as to create the possibility of voice and personhood for the child. The same possibility is carried above by the eye of the teacher.

All this is understandable by interpreting the picture above and understanding the connections between home and school, but the key question here is, how does the teacher, a novice in her trade, understand this process? Does she have a language for understanding how her body, face,

and hands create spaces by which the common ground between herself and her students is constituted? Can she conceive the spaces between her and her students as interrelational? She evaluates her own relation in viewing the film of the class as one of disappointment:

I was disappointed with a lot of things regarding the film. I felt I looked too serious throughout the whole thing, and I hardly smiled. In addition, I could have spent more time on the floor at the children's level, and less time standing up or sitting down. I could have showed more interest by nodding, as they spoke about their artifact. I just look so serious and even though I do smile a little, it's not really obvious that I am listening and happy to hear what they have to offer (Fieldnotes Oct. 15, 2005).

The teacher's (mis)understanding of her own expression is involved with many complex arrangements, not only in language. The face might be involved in the incidental, the spontaneous, with human vanity, with circumstances of upbringing, with emotional dis-control, with disappointment, with the cross purposes of race and gender. Whatever the reason, it is this contradiction between our understanding of the face and the social meaning created by the face that might allow us to restate the problem of this study as this: the social dimension of interpretation of sign, of the creation of social spaces through non-linguistic body-thought, might be said to involve at its most crucial level the constitution and re-constitution of the first languages of our lives. The possibilities of personhood exist in the listening gaze, the smile, and the tilted head. These non-linguistic sources of a just social space are one way in which we constitute and reconstruct social space.

In our discussions following the review of the class and the movements and gestures of her body through the hour in which the class took place, Teacher A repeatedly asked, "How can I learn more about this?"

Since learning is making links between new discourses and established, cognitive patterns, with uncertain consequences, the surrounding environment requires a certain amount of predictability. One of the ways in which this predictability is achieved is due to the reward dynamics of the student/teacher relationship. Reward is situated at the intersection between the uncertain consequence of learning and predictive expectation of the classroom. This predictive expectation is also a relational process, where a teacher's assumptions or inferences about the academic achievement or future learning of their students create their ability. In other words, the student responds to the teacher's expectations.

A classroom is a predictable environment where a student can expect two kinds of epistemic tasks: the curiosity driven task (creation) and the goal driven task (achievement). In the view here, expectations created by students and teachers can escape the narrowness and limitations of cultural stereotype and bias through the focus on the curiosity-driven task. Through self-creation, the student develops.

In its essence, learning is a relational transference that involves re-structuring the states of preparedness, anticipation and expectation to new representations of the world (signs) the students encounter. In the case above, the Listening Face became the most common, non-linguistic form in which the teacher allowed for the student to participate in creation. For our teacher in this study, she was curious about how to find out more.

I think in some ways I was cramped by the environment and the restrictions of that space . . . And I am just beginning . . . I felt I looked too serious throughout the whole thing, and I hardly smiled. In addition, I could have spent more time on the floor at the children's level, and less time standing up. I could have showed more interest by nodding, as they spoke about their artifact Is there anything you picked up on about ways I can improve? (Fieldnotes Oct. 15, 2005).

Discussion

Contemporary, educational theory and the teaching arts and sciences might not be effectively developing teachers with a vocabulary that surrounds the contradictions and conundrums of non-linguistic communication. In the past, many schools and traditions have held up the mythologizing phrase 'good teacher' as a way of explaining how an effective communicator works. This perhaps has provided us with a way of mythologizing the teaching arts and sciences.

As one example among many, a recent study called 'In Teachers' Hands' tested the literacy skills of 2000 children in every state and territory in Australia at the start and the end of the year (Milburn 2006). The study was conducted by William Loudon, dean of education at the University of Western Australia and Associate Professor Mary Rohl of Edith Cowan University. The researchers reported:

Good teachers had the most fun in their classrooms: the lessons were lively, fast-paced, and full of jokes and classroom games. Good teachers put on a fabulous show and clearly they're the best thing to look at in their classroom (Milburn 2006, p. 3).

I believe there is a world of experience in the phrase 'put on a fabulous show'. And certainly 'the best thing to look at in their classroom' borders on a questionable remark in the sense that it implies that 'beauty' or 'attractiveness' might be at the heart of teacher effectiveness. This study would argue that what the good teacher is able to do is communicate social values and the sense of excitement, enthusiasm and caring in ways that appeal to the students in the class. This would be at least partly a dimension of body movements, facial cues, hand gesture, and the warmth and intimacy projected by the voice. These preformative acts can either shrink or expand the common ground between teacher and student and student and student. There is no way to know exactly what is meant by the phrase 'put on a fabulous show' by the primary investigators in the above example. The impoverished vocabularies we have for the communicative body and the creation of interrelational spaces and interpersonal reasons would indicate that even in 2006, a senior researcher in a major educational research project employs 'primitive' language, equating teaching skills with physical attractiveness.

In the best possible light, it appears to me that the subtext of the language of this researcher is that the teacher was a good 'performer'. What are they able to perform? Because the study is of classrooms and learning process, it follows that the teacher is a good performer of knowledge processes, of anticipation, enthusiasm, consequences, and excitement. Importantly, a good teacher 'performs the space' in which the young traveler as learner will willingly take the risk to conceive of a 'new world'. This is the risk of learning, to take on a new word or concept or allow for another person's perceptions, ideas, and conclusions. The teacher makes this possible by creating a space of caring and compassion, where mistakes are allowed. As witnessed here, part of the way in which we make this space is through the communicative body.

Why do we not talk about these things in comprehensible language? Why are we loathe to address the 'feelings' generated by 'good performer' in the classroom? As Damasio sees it,

Of all the mental phenomena we can describe, feelings and their essential ingredients – pain and pleasure – are the least understood in biological and specifically

neurobiological terms . . . We doctor our feelings with pills, drinks, health spas, workouts, and spiritual exercise, but neither the public nor science have yet to come to grips with what feelings are, biologically speaking (Damasio 2003, p. 3-4).

In addition to Antonio Damasio, one of the foremost researchers of brain and emotion is Joseph Ledoux (Ledoux 1996). Though Ledoux's brain research focused on fear, we can learn from his study of emotional triggers and how these triggers become established. When we learned to feel joy or to be afraid or to be surprised, connections are established among groups of cells in our brain, forming what Ledoux names a cell assembly. The term cell assembly was first introduced by Donald Hebb, in his book *The Organization of Behavior* (1949). While a good part of the cerebral cortex is the famous 'gray matter', neurons with similar interests are arrayed in the cortex in vertical, Hebbian columns, and these columns effectively "light up" when they are being used, whether through a willed action, like speech, or an "instinctive action" like emotion. LeDoux discusses these assemblies in *The Emotional Brain: The Mysterious Underpinnings of Emotional Life* (1996).

Hebbian cell assemblies are vertical and have been observed to connect layers of the brain, such that an 'emotion' creates a cell assembly that can link the feeling brain the neo-cortex in ways that we have just begun to understand. Language and the "higher functions" of human activity, including memory, reason, and thought are, by and large, seen as activities of the cerebral cortex. Since Paul Hebb's work, cognitive science and neuro-cognition have begun to explore how cellular integration within and among the brain's areas work. Recent cognitive work has identified 'mirror neurons' which are specifically designed to respond to the face of the other. Some educational theory, particularly in the work around music in the classroom, also explores integrated curricula that does not isolate areas of the brain through 'rigid' activities, but chooses activities based on a conception of mind as a dynamic process--reason, emotion, language, music, and movement are all at work when we learn (Perret 2006). Music and sounds, facial expression and other physical cues engage our cellular representations in a way we might think of as webs; the lines of the web run together to form a hub, and the hub contains the memory of a learned response to the world. In some cases, these assemblies make permanent physiological records of what we have learned and can be identified with specific areas of the brain. (There are some students who come to us fixed in ways that will frustrate us). Our facial expressions, the words we choose, the scents we give off, and our primary, communicative abilities emanate out from these neurological architectures. In this way, it's fair to suggest that our nervous system

then, the highway and hubs of nerves and veins, link us in this dynamic way with both past and future memory and experience. The twelve billion cells of the brain develop, as William James would have it, aesthetic constructs out of sensation and perception. We make our sense experiences into livable, communicable states that are sometimes emotion.

What is curious about our present moment is that these constructions of the communicative values of the human body are being studied in various settings and through various disciplines. For example, the Center for Brain and Cognitive Development at Birbeck College in the UK supports research in Cognitive Neuroscience as a means for studying “areas of the brain which may be dedicated to the task of perceiving and recognizing faces” (Johnson 2005, p. 1). Cognitive neuroscience researchers at McGill University are also engaged in functional MRI work searching for the innate function of language in the brain as well. What this cognitive research reveals will certainly impact teaching arts and sciences in the future. In the present, the Center’s researchers Mark Johnson, Honey Halit, Kate Humphreys and Dagmara Annaz consider three central areas for their interest in face processing.

1) The ability to discriminate between and recognize faces arises during development, and research may yield techniques for seeing high-density, event-related potential (ERP) recordings of brain activity.

Our ERP studies have shown how face processing becomes much more localized in the brain between the ages of 3 and 12 months, and also more specialized to upright human faces (as opposed to inverted or monkey faces). Currently this research is being extended to investigate brain responses in young babies to faces of different races. Habituation and preferential looking studies are also being conducted to discover whether infants can discriminate between faces which have been distorted by morphing or caricaturing, or by the addition of random “noise” (Johnson 2005, p. 1).

2) The research may have benefits for people with development disorders such as autism spectrum disorder. Difficulties with face recognition may be related, in some way, to their more general difficulties with social interaction.

3) Another focus of face processing research at the CBCD is to “clarify the functional significance of the “N170” ERP component. . . . one of the electrophysiological “signatures” of face processing. . . .” (Johnson 2005, p. 1) To help reveal more about the functional processes

of face recognition, CBCD's study is investigating how and whether face processing activities of the brain are "modulated in response to manipulations such as habituation to a particular face identity, caricaturing and stretching faces, and faces of different races and altering the spatial frequency information present in a face" (Johnson 2005, p. 1)

This study is not investigating the internal, neuro-cognitive functions at work in 'face processing'. This study is considering what social values can be observed as we 'process' another's face in interrelational fields and spaces. However, as we seek to define the present interpretations of the communicative body, it is of interest to note that the above research also has as part of its focus an interest in 'racial identification'. This study argues how body-thought has been employed in the construction of differences based on race and ethnicity that express power-knowledge regimes and modalities of historical knowledge. In other words, traditional epistemologies of body-thought such as Le Brun and Lavater also have race as a function of recognition. This study views social Darwinism and racial thinking as a questionable emphasis and resists the 'absolute' of race. This study proceeds by viewing 'face processing' not as a singular, biological determined process, but as a communicative act involving at least two people who are attempting to construct or reconstruct social order by which they might exchange signs or values.

In an educational community, recognition of the communicative values of the other may have prior meanings associated with early life developments and relations. In our increasingly digitalized classrooms, under the political and social pressures we are under, we might be prone to resist acknowledging the first, primary languages of homelife such as face processing and intonation. In our social lives we (men in particular) are taught we can have sex without feeling and make prenuptial agreements that will legally short circuit the emotions involved when and if a marriage breaks down. However, interrelational social values may be deeply foundational of learning activities, and the communicative body's place in these interrelational perceptions is understated. Conceiving these social, non-linguistic values as 'N170 ERP components' may yield positive results in the future, but might not help our understanding of how body-thought works in the social field of the classroom.

As witnessed by the teacher's response above, we might not consciously, explicitly understand the valuations our bodies are engaged in during exchanges of signs. The teacher engages in what

Marx would call ‘practical consciousness’ (Marx (1844) 1961); she implicitly takes part in the creation of an empathetic space, yet it happens on a tacit level of consciousness. (That, she experiences is as disappointment might also implicate power relations in her comprehension of listening as well.) An outside observer can see the teacher’s face as a dimension of social values that involves respect and caring, student self-creation, and parental gaze. However, the young teacher herself is aware of this only as personal disappointment. She requests to learn more. She feels cramped in space. In the practical training of the teacher, transforming the knowledge of empathic awareness from a purely philosophical problem to one of practice might be a first responsibility in our efforts at defining ‘a good teacher’.

Finally, we also have to suggest that the practical understanding of how an educator replaces, say, the parents’ gaze and creates the possibility of personhood in the student in a new setting does not only involve gaze or the eyes alone. The emotional assemblies at work in ‘the look’ can take other forms in other learners. Over the years, I have worked with both the mentally and physically challenged. These have been some of the most satisfying experiences of my professional life, and none more so than the communication workshops I engaged in with blind teenagers. In one of these workshops, I worked with a young boy who was both albino and partially sighted. For him, a good teacher would not be ‘the best thing to look at in the classroom’. And he was an indelible spirit, often cheering his blind mates and the teacher. He was forthcoming with stories of how he misunderstood the sighted world and would laugh at himself for hugging ‘the wrong person’ or smiling and waving at someone who was smiling and waving not at him but at someone else. He once told me how the intonations of the voice – the rhythm and pitched vibration of the words – are his main guide for responding to and understanding social spaces:

If someone’s voice doesn’t show emotion, it’s hard to hold a conversation with them. You feel like they’re shoving you off. They could be saying anything, but you never know if the voice is cold, if it’s being taken away from you. So you really rely on the voice having emotions. If the tone stays the same, if there’s no emotion over time, everyone’s scared (Fieldnotes March 3 2006).

What the Listening Face accomplishes is an empathic message of the creation of a just social space. The teacher accepts the responsibility of and for the Other. This creation can also happen in other non-linguistic spaces, for instance, through the prominence, pitch, key, and tone of the voice.

Sources of the Communicative Body

Chapter 5. Interfield 2, Part 1: The Alphabet of God

If the stink of racism still makes you feel uncomfortable about exploring this subject, just reflect on the underlying reason that so many people accept racist explanations of history's broad pattern: We don't have a convincing alternative explanation. Until we do, people will continue to gravitate by default to racist theories. That leaves us with a huge moral gap, which constitutes the strongest reason for tackling this uncomfortable subject (Diamond 2003, p. 15)

When we return to our search for the communicative body in history, we land ourselves late in the 18th century, having to grapple with the conflicted figure of Johan Caspar Lavater, the Swiss educator and minister. From the perspective of kinesic processes in learning being submerged knowledge, the residual and traditional values of Latinate Christianity can be seen here to utilize the body's modalities in the late 18th and early 19th century to attempt to regain church hegemony as forms of humanism begins to sweep across Europe. And if we acknowledge that religion is one way in which people have suffered silently to wait for an illusory notion of 'heaven', religion has also made attempts to establish the social values of compassion and caring. In that respect, it is not a surprise that in our history of thought religion and the communicative body share a mode of contact within the historical narrative. I'll resist the opportunity to discuss 'the cross' as a metaphorical submersion (goring) of the body's knowledge, and instead note that Lavater's physiognomy shows interpretations of body-thought were popular well before Hollywood and the reproductive technologies of film.

In 1771, Lavater gave a lecture on physiognomy in Zurich for the Naturalist Society. The physician Johann Georg Zimmermann, a friend of Lavater's, attended and then printed the lecture in *Hannoversches Magazin* in 1772. This combination of publication and a receptive audience appears to have moved the Swiss theologian. Lavater began to gather materials, enlisting draftsmen and engravers, including his childhood friend Henry Fuseli. He enlisted the opinions of Goethe as a collaborator in 1774. In 1778, Lavater published *Physiognomische*

Fragmente, a kind of textual and imagistic museum of miscellany that includes essays, engravings and testimonies about the communicative values of the human face. Lavater's fragments popularized physiognomy and turned what was once a parlor art into an influential 'new science' in many areas of European culture. As noted recently by Lisa Hartley, given the scope of the influence of Lavaterian physiognomy in the educational, psychological, and artistic arenas in the 19th century, it would be a mistake to dismiss physiognomy as fad or mere fallacy (Hartley 2001). Not only does the primitiveness of Lavaterian physiognomy anticipate modern psychology, but his claims of a 'natural' and 'divine' language inscribed on the body—a godly language inscribed on the human face—can be read as prefacing the doggedness of religion in laying claims to the body-subject.

"All error originates in the deficiencies of language," Lavater wrote, "the want of peculiar characteristic signs" (Lavater, Holloway et al. 1789, v. 1, p. 151). These deficiencies required a new way of making meaning in order to measure both the inner aspects of 'man' and the outer designs of God. Lavater ambitiously proposes the great sensorium of physiognomy, a way of 'reading' natural patterns, divine meanings, and moral purpose. Physiognomy

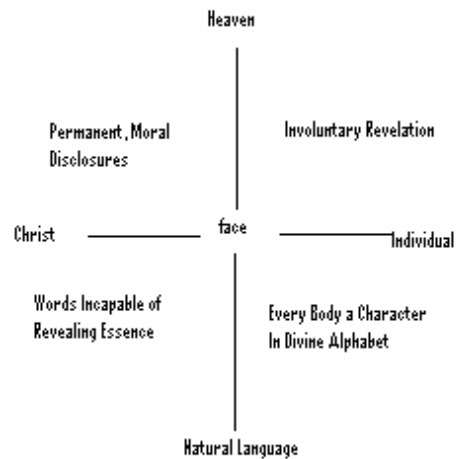
signifies to exercise the feelings, anchor sensibility, acquire the power of imparting, of delineating, characterizing and depicting what we feel and observe. It signifies to search, limit, and class the visible signs of the invisible powers (Lavater, Holloway et al. 1789, v. 1, p. 38).

The biblical cadences and rhetorical sway of Lavater's language notwithstanding, he sought to marry a reformed theology with the pure study of nature and 'discovered' syntactic resonances on the human face. For Lavater, the innate or instinctual components of our expressions and perceptions of those expressions reflect the patterns of moral, God-given design. "The sensation is universal," Lavater writes, "that is to say, as certainly as eyes are in any man, or any animals, so certainly are they accompanied by physiognomic sensation" (Lavater, Holloway et al. 1789, v. 1, p. 56). His insistence that physiognomic knowledge is a sensation has not been commented on in any great length, and I'd like to briefly comment here.

Lavater's *Physiognomische Fragmente* sought to organise these 'instinctual' sensations and 'innate' feelings into patterns that locate on the human face the alphabet of God's language that reflects the teachings of Christ. This was not knowledge in the way mathematics or astronomy

was, but a sensuous function for reading signs of a transcendental nature. These sensations were related to involuntary moral disclosures generated by the permanent features on the face, what Richard Sennett has called this involuntary “disclosure of character” (Sennett 1977, p. 24). If ‘man’ is uniquely unique and of a moral design, then it will be observed that the properties of God’s mind on the body will reflect this design as character types or ‘figures of thought’.

Lavater’s longing for stability in a changing world would take the form of claims to have found universal ‘figures of thought’ on the face that reflect involuntary moral disclosure. Because the physiognomist works by judgment and inductively, translating sensations and perceptions into types, Lavater will effectively reverse Le Brun and Descartes’ attempts to understand the sociality and emotionality of body-thought. For Lavater, physiognomy was not the expressions of internal states; external appearances and what sensations these external appearances created in others became a system wherein an ‘emotionless’ face sits at the intersection between heaven and the human soul. Natural meanings of a divine language are inscribed on cheekbone and forehead and the cast of the eyes. Also in contrast with Le Brun, Lavater is not describing his ‘science’ for young artists to make their paintings look more real. Lavater believes that understanding the fixed laws within appearances is both a scientific and a Christian duty. This dispassionate, utopian vision defining sensation in relation to the natural language of God and through scientific method had the effect of lightning in a bottle.



Physiognomische Fragmente would quickly become a sensation in Europe and a bit later in America. Twenty spin-off editions of Lavater's essays appear there, including *The Pocket Lavater* (1817) and *The Juvenile Lavater* (1812). These books would be used as guides by artists, schoolmasters, parents and guardians, and even business people looking to hire the right person for the job. The new science became so persuasive that some suggested raising Benjamin Franklin from the grave so we could get another good look at his face and analyse virtue there (Lukasik 2004). By the time Lavater died in 1801, his system was known far and wide. New York's *The Lady's Monitor* would canonize his impact by noting "in Switzerland, in Germany, in France, in Britain, and in America, all the world became passionate admirers of the physiognomic science of Lavater" (Lukasik 2004, p. 430). The publication of Lavater's illustrated essays during the 1780s and 1790s, combined with the subsequent appearance of various pocket and periodical editions in the following two decades, not only distributed the logic of physiognomy widely. Lavater's work transformed physiognomy. What had been the pursuit of educators, artists, and parlor philosophers searching for ways to effectively portray social and emotional distinctions became a 'new science' which had tested and confirmed what Lavater would call an entirely divine language. In his curious mix of biblical, lyrical style, and scientific claim, Lavater would call this language forth as "the most beautiful, the most eloquent

of all languages” (Lavater, Holloway et al. 1789, p. 96) This ‘logical’ examination of carnal language would become one of the more popular books of its time; Lavater’s ‘discovery’ of a language of essences became what today might be called an ‘international bestseller’.

Lavater himself had voiced concern about the limits of physiognomy on both practical and theoretical levels. His natural optimism in man and his Christian preaching had given Lavater a style and vocabulary that conveyed his ideas in certain and celebratory language of God and his prized creation, man. But, practically, Lavater knew his ‘new science’ created miniatures that resembled the original in a reduced way (Hartley 2001). Lavater and his draftsmen were imitators trying to capture some original inspiration in a reduced way, and his ideas never matured into a complete system. His thinking remained impressionistic, and his physiognomic essays were more appeals to natural theology than actual science. And since he relied heavily on the letters and testimonies of the ‘well-known’, Lavater despaired when Goethe, suggesting that Lavater was engraving ‘rubbish’, rejected physiognomy. In a letter dated September, 1775, Goethe wrote,

Brother, brother, how difficult it is to animate dead copper, where character barely flickers through (the engraver’s) awkward strokes and one never knows why it means something or even if it means anything at all. How different in real life! (Siegrist 1993, p. 36).

Goethe’s scientific and literary thought provide a nice contrast with ‘scientific physiognomy’. As he had begun to embrace ideas of flux, of uncertainty and movement, Goethe had begun to understand that human knowledge as it was then constituted in religion and metaphysics (tragically) outside of the phenomenon of the physical world. As seen by Henri Bortoft, “He (Goethe) worked to achieve an authentic wholeness by *dwelling in the phenomenon* instead of replacing it with a mathematical representations” (Bortoft 1996, p. 19). Christoph Siegrist has suggested that Goethe had matured, while Lavater “remained in an early stage of intellectual development and soon showed signs of dogmatic ossification” (Siegrist 1993, p. 38). In a letter to Goethe of 1780, after he had completed and lavishly published his fragments, Lavater responded to Goethe: “Dear friend, if I am still exactly as I was nine years ago, why are you no longer so?” (Siegrist 1993, p. 38). One can perhaps hear in Lavater’s question how difficult to lose the support of Goethe, whose science and creative literature was beginning to define the European Enlightenment. Goethe broke off correspondence with Lavater in 1783, and published numerous criticisms of Lavater in later works.

The Climate of Zurich

While we might not readily think of the phrase The Swiss Enlightenment, Lavater worked alongside the reformist Bodmer, the educator Pestalozzi, the artist Fuseli, such that we could make a case that the 1760s through the 1790s represent years of social and intellectual upheaval in Zurich. The body's place in communication and learning is at the center of those changes. It is unclear exactly what Lavater made of the educational theorist Heinrich Pestalozzi, though he would have had contact with him through Bodmer. In 1769, the same year Lavater published his translation of Bonnet, Pestalozzi established his farm/orphanage at Neuhof. And while Lavater does not mention Pestalozzi in his essays, their thought overlaps with regard to the site of the body in learning and 'language'. Pestalozzi ruminates on the intelligence of the head and heart, what he called the 'seeds' of human cognition. From this very start of western, educational theory, we have the idea of formal education as a socialization process rather than an intellectual skill set. For Pestalozzi, who will be a primary influence on Itard, Froebel, and Montessori, the goal of education is the development of the child according to the child's own individual nature. Schools and teachers only create free and nurturing social environments in which the child's expression develops. Pestalozzi also focused on concepts such as sensation and sense perceptions, but does so in relation to the healthful development of the child's mind.

Lavater's reticence toward Pestalozzi might be seen a reflection of tensions between social classes. Pestalozzi had been raised in poverty and did not have the option of becoming a clergyman, as Lavater had. Clergyman and politician were occupations for the middle classes, those with social connections and capital. Pestalozzi joined a more agrarian reform movement that held as its belief that more efficient means of agriculture would pull the poor from their poverty. He embraced these ideas and spent some years teaching the rural poor how to spin cotton. In 1780 published The Hours of the Hermit, a book that began to explore ideas of a child's development. He would follow this up with *Leonard and Gertrude* (1783), a novel in the style of Rousseau's *Emile* (1762). While Pestalozzi shared in Rousseau's exploration of the connection between our natural selves and the sphere of public virtue, like Lavater, Pestalozzi created a unique system for viewing the child, not in particular, but in general. Critics like Green suggest Pestalozzi establishes modern pedagogic thinking in seeing that the full and fruitful development of the child exists in the child growing body and soul according to their own individual needs and desires.

Lavater and Pestalozzi represent two sides of the educationalist coin. Though Pestalozzi would fall into despair, his writings and acts inform a good deal of modern pedagogy. At the time, it is Lavater who enjoyed fame, his ideas become employed by educationists in other parts of Europe. By 1807, editions of *The Pocket Lavater* and *Juvenile Lavater* become some of the first textbooks and traveling libraries in Britain, and soon after in the United States. Unlike de La Chambre and Thomas Hill, who offered physiognomy as a parlor art, and unlike Le Brun, who offered physiognomy as an aesthetic practice, Lavater's claim to divine science draws fire. Georg Christoph Lichtenberg would write, "On the whole and in millions of cases for every exception, all is for naught and physiognomic is simply prophesy" (Siegrist 1993, p. 33) In the shadow of Hume and Smith's natural sentiments and Rousseau's noble savage, with enlarging linguistic communities congealing into political economies and liberal theory, with the rise of cultural categories such as race, nation and gender, and as revolutions for freedom begin to race through the societies of the West, Lavater struggled to bridge the orthodox with the heterodox views of the world.

For this study, what is imperative about Lavater is his insistence that the body is a 'language'. God's language is broader than man's language: Each body [is] a sign, an individual character in a divine language that could be read as having natural, implacable meanings. In a Zurich distressed by plague and, from a preacher's perspective, not a bit of vice, Lavater attempted to create a dictionary of this 'language' based on the face and head, a system of meanings, in images and their explications, a language that can be taught and learned. This was possible because the properties of this 'language' were involuntary, fixed anatomical features. Lavater employed his childhood friend, Henry Fuseli, in addition to other draftsmen, to begin the task of outlining, visually and linguistically, a physiognomic *Ur-Sprache* (Percival and Tytler 2005). Lavater promoted this 'new science' as an inclusive code of interpretations; a code not meant for everyone, though learning it is a matter of Christian duty. Not those in only in Zurich, but people of cultures in Germany, France, England, and America opened their eyes to Lavater's vision of a bodily language that each of us was a letter in, a language defying the ambiguities of text and speech. These natural and absolute meanings hold out the promise of truths separate from the abstraction and ambiguity of words themselves, where all error originates. Lavater's essential human being reveals an organic image of the supernatural, a symbol of natural flesh and blood of Christ. We are the syntax of God, an Adamitic tongue, a pre-tower of Babel

alphabet. This vision reflects political philosophy as well. Lavater's system accounts for the sanctity of each individual. Regardless of class or social distinction, the individual life is affirmed, and Lavater here embraces both the absolute (God) and the relative (individual). In the divine alphabet, we are all created equal.

What is also of interest for this study is Lavater's grappling with the 'instinctual', with perceptions and intensions of mind. Like Descartes, Lavater found there is a link between interpretations of the world and the body. In this way, as new sciences rose up around him, as botany, geology, mineralogy, and comparative anatomy staked their claims on the natural world, Lavater created a system in which the body's communicative values might be made to partner with the naturalistic humanism of the time. Lisa Hartley suggests that the process of instinct (and what she also sees as intuition) involves understandings of "things without being aware of how we do so". She suggests instinct "underpins almost all of our everyday actions, judgments, and decision" (Hartley 2001, p. 11), but are sensations of the body language does not identify as 'thought'. Physiognomy might be seen as the science of the instinct by which we judge character based on initial and instinctive reactions of the communicative body. Responding to a growing need for scientific verification of the world, in cultures where growing populations had increasing access to published information and theory, Lavater's response to the 'Advance in Consciousness' of his time was to combine the stable semiotic system of Christian imagery with a 'new science' that defines our instinctual sensations and perceptive feelings generated by the various systems of the body.

Silhouette Silhouette

In addition to theology, Lavaterian physiognomy also involves aesthetics and results in a curious shift in portraiture toward silhouettes in both Europe and America. In novels, portraits, philosophy and psychology, the Lavaterian claim to have found a significant, testable class of events in immoveable facial designs came in for review:

The theoretical justification for the particularization of post revolutionary portraiture, as art historians such as Wendy Billion, Doinda Evans, Brandon Brame Fortune, Ellen G. Miles and David Steinberg have argued convincingly in the last 10 years, had much to do with the rise of Lavaterian physiognomy (Lukasik 2004, p. 426).

All of this suggests that even if physiognomy can be seen as a ‘fallacy’, a pseudo-science based on moral ideals masquerading as fact, seeing the interconnection of the modalities of human expression—image and text, smile and eye, face and hand with word—contributes to new epistemological debates in education, criminality, philosophy, as well as in the arts. While Lavater’s ideas reflected tensions between the old and the new, between faith and science, these tensions would ignite and inspire artists to comment. That ‘comment’ transforms portraiture from the delicate relations between artists and the social elite. The need for a national, visual definition of character, God-given or not, would spur the invention of machines for silhouettes. Since character was a permanent feature separate from the passions and emotions, since expressions were of a fleeting nature, silhouettes would do as well as portraits. The profile, the curve of the forehead and nape of the neck, was all that was needed to define a person’s or a nation’s moral character. The physiotrace, pantograph, and polygraph allowed for these imprints of character to be taken more easily and cheaply (Lukasik 2004). Soon not only the political and social elite were sitting for character portraits that would define national identity; Everyman could surrender his face for inspection as well. The ability of the face to express social values involved,

A transformation in the production of portraiture . . . was facilitated by, a transformation in the cultural reception of faces. As more and more people began to own and circulate portraits, the kind of face that a portrait depicted and the character that it displayed to its viewers (anticipating modern notions of personality and publicity) began to matter more than either the costs of a portrait’s production or its conventions for representing social station. The face itself became a portrait and what mattered most . . . was its desired legibility in the social field (Lukasik 2004, p. 437)

For national character, for the ‘legibility’ of desire, for desirability itself, for spiritual awareness, all of these serve as reasons when we interpret Lavater’s “Sturm and Drang” attempts to remove the passions from the face and inscribe a more permanent understanding of natural meaning on the body. Silhouettes become the more accurate means of practicing physiognomy because the observer is not moved by the expressions of the face, but can assess only the mortified forms of the head, neck, and face. Drawing not only relies on ‘the passions’, but can be mediated by the draftsman’s hand as well. Silhouettes eliminate any interpretative or emotional ambiguity and allow an observer to see the unalterable language of the human face. “No art comes near the truth of an exact silhouette” (Lavater, Holloway et al. 1789, p. 177). While this may sound comic to those of us raised in the days when county fairs and summer circus groups specialized

in selling copper silhouettes for a dollar, Lavater believes the silhouette offered “positive and incontestable proof of the reality of the science of Physiognomics” (Lavater, Holloway et al. 1789, p. 178).

While some in the arts rejected this notion of passionless expressions of character, Lavaterian physiognomy can be seen to have transformed interpretations of the body’s signs in his time. No longer were portraits only about the social elite; the class and social and moral distinctions once carried by the inaccessible opulence of the nobility were now accessible to the common, literate public:

The silhouette of a human being or of a human face is the faintest and emptiest but – if the light has been cast on a clear surface and was sufficiently parallel to it – also the truest and most faithful image of a human being that one can give. The weakest because it is almost nothing positive; it is only negative, only a half-faced borderline. The most faithful because it is an unmediated expression of nature, like none that anyone – not even the most talented draftsman – can draw freehand from nature (Lavater, Holloway et al. 1789, p. 90)

The deification of the aura of art in mechanical forms dissolves the essence of the artwork into a phantom of beauty that blocks real engagement between consciousness and image (Benjamin and Arendt 1968). For Benjamin, this has dissipating consequences on the revolutionary potential of art. In fact, the mechanical reproduction of the shape of a face in black mask might have inspired Benjamin to define the vulgar as not only a commodification but a severe reduction of the essence of humanity into demonic shapes and lifeless figures. For this investigation, Lavater’s physiognomy brings us closer to the understanding of what text is capable of and what image does in the absence of text’s ability to convey the social values born by the body.

The contemporary theorist Lisa Hartley suggests that Lavaterian physiognomy is a curious and ambitious science whereby we find intimations of future vocabularies. In other words, in Lavater’s intimations lay traces of contemporary theory today. *Physiognomische Fragmente* can be seen to be ‘a text’ looking forward and backward at the same time in three ways: First, Lavater’s longing for the immediacy of the visual symbol is, effectively, a revolt against the mechanistic logic of science arising in the culture of textuality surrounding him. Second, his

popularization of a science of the individual begins to create a religious public receptive to the political and objective claims of the Enlightenment; lastly, his acceptance of intuitive and innate sensations as meaning reveals not only the psychological, but the level of meaning prior to language, the submerged knowledge of the communicative body. Let us briefly consider these points:

The new sciences pouring forth from European culture promised to name a world with stable meanings, with predictable classes of events, with reproducible causes and all in the name of an intentional unity (God). At the same time, the cost of these new knowledges and bodies of evidence was that language as the center of meanings must arrive at new meanings, overrunning and destroying the old. Previously, in the lap of the church, we did not need to know the doctrines of the external world. Our bodies were mysteries, our soul's immortal entities. Now the external world was being read. The dogmas of the unreal world began to be challenged by the mechanical facts of a living, evolving landscape. Lavaterian physiognomy can be seen as a response to this shifting semiotic landscape. For centuries, the church had celebrated the liturgy primarily through the use of visual symbols, as well as rhythm, image and song. Gunter Kress has commented on the medieval period being an image-society, in which the making of meaning was primarily visual signs (Hodge and Kress 1988). If one couldn't read about Jesus, not having access to texts, the bust of Jesus would have been available to anyone with a curious mind. For a congregation, linguistic meaning had long been backgrounded to image and song, and against this image culture, Gutenberg's invention brought on an era in which the congregations' relationship to the liturgy would become primarily linguistic. Enough has been said on this as to risk a generalization. We might suggest that textual technology is one of the keys to understanding the civilization of productivity based on text that rose from the ashes of medieval, feudal society. Words on a page are themselves an image, but one purveyed by the image of the idea, an abstraction that bypasses the image-symbol itself and renders meaning to be an interior process (Birkerts 1994). The Reformation had turned image culture on its head. Enlarging communities joined by textual meaning and linguistic discourses began to solidify abstractions such as nation and individual, race and class. While Lavater might be seen to be the lonely church worker, picking up the pieces of image culture after the funeral is over, he might also be seen as a figure marrying image culture to the rising modality of textual meaning. Lavaterian physiognomy rejects, on some level, the ambiguities and errors of The Word; it reinvents the

power of the icon, as well as for the power of ‘The One’ who bears the divine image to the receptive congregation.

Objective Enlightenment:

Lavater joined with the intellectuals of his age and was part of the search for personality, which Goethe called, “the greatest happiness of earth’s children” (Barney 1999, p. 27). In the bildungsromans of the time, in the philosophy of Rousseau, and to a lesser extent Hume, in Pestalozzi and the Republicanism of Bodmer, in the paintings and poetry of Blake and Fuseli, the individual rose from the ashes of feudal oppression—equal, intelligent, endowed by their creator with certain inalienable rights . . . and characteristics. If Lavater’s work sought to join the rising tide of liberalism sweeping through Europe, it does so by retaining the power of the image and joining it with the new reality of the Self. Bodmer and Pestalozzi, Hume, Rousseau, and Fuseli, among many others, were the figures of the Enlightenment beginning to celebrate the individual, the passions, reasons, and imaginations of individuals, equals among equals, in a natural world. How could a man who still held with the Christian truths celebrate the individual while retaining his faith in God-as-Creator? In Lavater’s physiognomic system every person is endowed by their creator with certain characteristics, divine patterns expressed in the shape of the brow, the glance, the purse of the lips, and those educated in the new science of physiognomy would have the eyes to see God in Everyman.

Lisa Hartley also suggests that physiognomy predicts psychology, and

what emerges in the later 19th and early 20th century as a psychological account of human character and behavior—a science of the mind—is both the long-term outcome of physiognomic teachings and the reason for their dissolution (Hartley 2001, p. 3).

If Lavater’s system of face-reading is doomed at the start for having been founded on falsehoods, its popularity may also reflect the implicit need for human connection with the communicative values of the body in the natural world. Our sensory perceptions of the world—and this would include processing the faces of others—are an interrelational web of experience, the lifeworld to which Husserl spoke to in his final writings (Abram 1997). The profoundly carnal field that Merleau-Ponty would attempt to define as subject-body outside the arbitrariness

of perceptive language, this field answers the capacity for misunderstandings in language. Lavater evidences the need for non-linguistic ways for us to know how we are going to be received by others and how they are going to receive us. The basis for what today we might call 'social capital', the basis for the building of trust, are in part located on immediate, intuitive forms of the communicative body. Bodily gesture speaks directly to us. Images do not require the interior reflection text does. And show these sensations and perceptions were distorted in their time and adapted to essentialist frameworks used in the service of education can be seen by looking into an early textbook, George Brewer's *The Juvenile Lavater* (1812).

Chapter 5. Interfield 2, Part 2: *The Juvenile Lavater*

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fastened, or bent."—"Dear sir," interrupted William, "what beautiful boat is that?"—"That, my dear boy," said he, "is the barge in which is our dear sovereign, King George the Third. There he is!—do you not see him?—Here (said he, opening the book of Passions), look at this; this expresses the sentiment you ought to feel; it is

VENERATION.

"Veneration is (according to Le Brun) the result of admiration and esteem, when it has something for its object divine, beyond our comprehension, or majestic in virtue. The face is modestly reclined; the eyebrows bent down; the eyes almost shut and fixed, and the mouth quite shut. These motions are all



Above: : Veneration: A Detail from George Brewer's *The Juvenile Lavater*, 1812(Brewer 1812)

The intersection of the 'history of the book' with educational history turns up the thought of Comenius, Locke, Pestalozzi, Lavater, Rousseau, Froebel, and others. While it is difficult to overstate the towering influence of *Emile* to early educational thought, for this study, another, early textbook, *The Juvenile Lavater* by George Brewer, indicates some of the earliest, mass-produced, durable, and secular books with the express intention of educating youth were

centered on facial expression and non-linguistic codes and how these codes relate to abstracts such as virtue, character, beauty and ‘the good’.

Whether or not the idea of producing ‘character’ through education is sound theory, with theory arose the need for practices. With Locke and Pestalozzi came the need not only for spaces where educational practices might be tried out, but texts that outlined how and where the foundations of human wisdom and character might be found. And while textbooks will not be produced *en masse* until the 1880s, at the start of the 19th century we begin to see early educational texts attempt to construct systems by and through which to understand the body, the sensual, and the physical as functioning parts within the (new) natural world. And as this European social order of ‘flux and deceit’ birthed *Les Fleur du Mal* (1857) and *enfant terribles* such as Rochester, , Byron, and de Sade, it also established textbooks aimed at moral order and coding of the body in the service of the virtues born of nostalgia for the ‘traditional knowledge’ of the Roman, Latinate hegemony (Turner 2003). George Brewer’s *The Juvenile Lavater* (1812) is one good example of an early textbook longing for a moral theory that surrounds body-thought, which in turn informs the idea of producing character through education.

As we have begun to see in aesthetics, physiognomy, and in some non-western modes of understanding, subjectivity and some aspects of personality can be viewed as distinctly separate from language. Social and emotional values such as generosity, caring, character, and loyalty for the social group are inscribed on the body itself. By the 18th and early 19th centuries, these spatial, somatic, and largely submerged knowledges have also begun to be used by social and political discourses. With Descartes, Le Brun, and Lavater, the associative, communicative system of the human face can be troped in the service of ‘essentialist’ frameworks such as Christianity and nationalism. By and large, these frameworks for understanding the communicative values of the body are submerged in letters and aesthetics. In 1812, we find the communicative body in an early, educational textbook which locates some aspects of subjectivity in non-linguistic processes.

Early textbook production, which can be seen to have begun with Philip Melancthon and Comenius (1596-1670) in Protestant Germany, were largely Latin grammars and attempts to formalize schooling around stable grammatical and moral precepts. Comenius’ *The Great Didactic*, first published in 1632, was translated into twelve European and four Asiatic

languages. It was used well into the 19th century (Boyd and King 1964). The dearth of ‘proper textbooks’ was partly a matter of the lack of technology. With the arrival of the steam engine and the Age of Machinery; newspapers and novels will begin to flood the intellectual and educational markets beginning in the mid 18th century. Textbooks would soon follow, and this interaction between mass publication and the dissemination of educational ideals are part of a composition of social and political dynamics not easily unknotted. The tensions of the era between religions and sciences and realism and spiritualism might have resulted in a push by various discourses for ‘absolute accounts of the universe’ (Taylor 1989). As bodies of evidence accumulated in text, 19th century scientists sought grand patterns for both nature and human culture. Before the ravages of the Industrial Revolution, before the insults of child labor and female labor, before the rise of the first, modern, militaristic state in Prussia, the purveyors of science--naturalists, biologists, surgeons, anthropologists and the like--sought to replace past confusion with radical fact, and textbooks reflected the spreading scientific discourse.

This rise of mass schooling, with its goals of ‘the Virtuous Man’ along with mass literacy, are tempting targets for research. Over the past two decades, ‘identity politics’ has been one lens through which academics and researchers look back on to examine the rise of mass schooling, national identity, gender issues, and the rise of capitalism and the militaristic state, to name just a few items on various educationalist agendas. Feminist historians have also pointed out the ‘absence’ of the place of women and girls in 19th century societies (Grosvenor 2005; Miller 2005). Still another way of looking at the 19th century is through literacy studies; as shown by Graff and others. Literacy and literacy levels, textbooks and early school conduct manuals, are excellent ways to chart historical change (Graff 2001; Graff 2005). Whatever lens we chose, we often find these matters involve great variety in practices. Education is a ‘crazy quilt’ that involves discontinuities, continuities, multiple discourses, and power relations. For example, at the start of the 19th century, religion-based academies, church-sponsored schools, missionary societies, and circulatory libraries began to publish textbooks and collect children under one roof, with someone (usually a woman) in a ‘teaching’ relationship in front of them. By the 1880s, public, secular mass schooling as the responsibility of the state has begun to flourish in many western cultures. mass literacy, a goal of many of these societies, required mass production of textbooks; mono-lingual cultural practices; newspapers; national, social policies; and a value-system aimed at producing a particular ‘character’ in line with particular virtues (Barker 1927; Light 1991).



Above: Desire. A Detail George' Brewer's *The Juvenile Lavater*, 1812(Brewer 1812).

As part of the 'New Catalogue of Earle's Original Circulating Library' *The Juvenile Lavater* was listed by London's Minerva Press, which specialized in fiction and contributed to the rising juvenile, lending and circulatory libraries.



ADMIRATION.

"Yes, my dear (answered Mr. Willock, turning over the leaf), it is beautiful, because it expresses a good passion, and one that is very grateful to the mind—the passion of *Admiration*. Do you recollect how delighted you all were when you were on the sea-coast, and saw the sun rising above the horizon, and the ships sailing before the wind? what you then felt was *Admiration*. In the passion of *Admiration*, the mind is occupied with pleasing thoughts, usually accompanied with love, esteem, or veneration for the object; and these sensations that give such a pleasant turn to the features. In this passion (according to Le Brun), the eyebrow rises; the eye

Above: Admiration: A Detail in Brewer's *The Juvenile Lavater*, 1812(Brewer 1812)

By 1801, Lavater's physiognomy had spurred the publication of not only numerous editions of *Physiognomische Fragmente*, but spin-off, educationalist texts such as *The Pocket Lavater* (1817) and *The Juvenile Lavater* (1812). These texts allowed parents, guardians, and teachers to instruct the young on recognizing and interpreting non-linguistic signs that would school the young in social values, virtues, and vices. As the 18th century closed and the 19th century dawned, nature, nations, and the 'new self' were emerging categories in academic discourses. Lavater's optimistic 'science' met many needs. With respect to nationalism, ideas of beauty, and the need to renew the stability of residual forms of theology, *The Juvenile Lavater* filled the educationalists' need for a recognizable public faces that expressed virtue and vice. The need for scientific explanations for natural sensations found an audience who sought to "prefer those passions which bestow on the countenance the beautiful and placid features of a good and quiet manner" (Brewer 1812, v.). Brewer became Lavater's public face, in the form of a textbook.

What can be found about George Brewer is that he appears to be a figure active in the late 18th and early 19th century literary circles of London. He was a contributor to *European Magazine*, a magazine that sought to bring a continental view of the arts and letters in London (Montluzin 2000). In that respect, Brewer relies heavily on Le Brun's sketches which have now been popularized well beyond the borders of France. In using Le Brun's sketches, Brewer might be seen to confuse Lavater's central idea: For Lavater, it is not the fleeting expressions of the face, not emotions or passions that reveal moral character. The cut of the jaw, the globe of the brow, the space between the eyes do that. Brewer returns the passions to the face and Le Brun's portraits punctuate Brewer's book. Between these, Brewer places moral tales the likes of 'The Family of the Gobblegruels' and 'The Story of Bill Vacant and Henry Hawk's Eye'.

On Character

One of the underlying arguments of this study is that the shifting semiotic landscape today has parallels with the shifting semiotic landscape of the rise of the 'European World Order'. Shifts in the means of production of the ways in which we communicate and pass on knowledge create interpretive windows through which we can better perceive relations of dominance, knowledge, and social relations from a historical perspective (Taylor 1989). If many of the libertine and educational texts of this period were 'burned and banished' (Turner 2003), Brewer's edition of *The Juvenile Lavater* played a role in the formation and spread of scientific physiognomy in England and America. In that respect, the book can also be seen as further proof that a systematic code for reading these non-linguistic signs can employ the submerged knowledge of the communicative body in the service of essentialist political frameworks. In other words, since character is at the center of much debate about education and the public people we become, and since the cultural abstract of 'character' is at the heart of Brewer's physiognomy, it follows that there are some difficulties with the certainty of Brewer and Lavater's scientific system for what character means. As Lisa Hartley has suggested, the term 'character' comes with numerous associations and is problematic,

This essentialist view of an organism, which was at the centre of Lavater's physiognomy, imputes purposes to all things and assigns things to classes on the basis of their possession of common essences. Discrimination, or seeing difference, was physiognomy's approximation to an essentialist method, as it provided a means of reducing the many differences between individual appearances to a few generalized distinctions . . . discrimination is simply another word for essentialism: it functions

through a unique taxonomic system which assigns things to classes on the basis of their shared essences (Hartley 2001, p. 37)

Hartley suggests the essentialist teachings of character in scientific physiognomy are discriminatory. What makes this process complex is that Lavater and Brewer claim that this discrimination, this ‘way of seeing difference’, is not only the design of the organic world, but reflects in that design the wishes of the higher mind of God. Accurate reading of the face brings us into closer relation to the good. What’s more, scientific physiognomy manages this (racial thinking) through the confusion of character with the qualities of beauty. For Lavater and his disciples like Brewer, the qualities of national (tribal) identity in the public face become moral certainty. “The best people look best and most happy, will be inclined to become the best” (Brewer 1812, p. v.). The sensation of the beautiful itself is moral. This puts us in the difficult position of what we might call a sentimentalized history, not to mention to be under the command of ‘authority’ or sole arbiters of taste who align moral nature with physical beauty (race). As Auden has suggested, political history is far too criminal to teach to children (Auden 1975). Lavater, Brewer, Le Brun and other physiognomic thinkers resolve this conundrum by teaching that loyalty to the national type is loyalty to the sensation produced by beauty. In other words, historical and moral character is what a person in an authority position says is beautiful.

There is no object in nature the properties and powers of which can be manifest to us in any other manner than by such external appearances as affect the senses. By these all beings are characterized. They are the foundations of all human knowledge. Man must wander in the darkest ignorance, equally with respect to himself and the objects that surround him, did he not become acquainted with their properties and powers by the aid of externals; and had not each object a character peculiar to its nature and essence . . . (Lavater, Holloway et al. 1789, p. 11,12)

In our early formulations for the body-as-perceiver and signer, external, non-linguistic appearances that affect the senses become the foundations of human certainty. This formulation reveals a longing for the immediacy of the visual meaning, undistorted by language. It also reveals an authoritarian pedagogy in which the physiognomist is capable of knowing what is ‘always true’. From the expert, the children are meant to learn what the always true truth will be. Brewer will frame this discussion in both positive and negative ways. The standards and norms of character suggest “the features of ugliness so faithfully described to the pupil, as to cause him to avoid vice” (Brewer 1812, p. v.).



Above: An illustration of Compassion from Brewer's *The Juvenile Lavater* (Brewer 1812).

On Beauty

Many contemporary educationalist studies on likeability and immediacy in the classroom would do well to understand how the generation of prejudice based on narrow, racial definitions of beauty might be played out again and again in certain institutions of learning. Brewer's edition of Lavater's 'new science' put forward the idea of the beautiful, 'the most beautiful body', in the framework that anatomy reveals morality. This might be a confusion of natural theology and scientific physiognomy with aesthetics. On another level, the essentialist stamp of a confused judgment of beauty and character might be seen to suggest another level of meaning and anticipate what we see today in many educationalist studies of non-linguistic meanings. The comprehension of beauty is often mistaken for intelligence, likeability, and ability. As Lisa Hartley has recently commented,

discrimination was at the centre of physiognomic practice because in order to discover the universal truths which inhered within specific experiences, the physiognomist must work inductively and judgmentally, using particular observations to stand for general types or kind (Hartley 2001, p. 37).

What's curious here is that as much as theorists can underscore the fallacies at work in Lavater's physiognomy and/or the 'racial thinking' that underscores scientific physiognomy, we also have to acknowledge that racial thinking, the 'fallacies' of beauty and virtue and character being associated with and defined by the color of the skin, the size of the head, or other aspects of ethnicity and racial lines, comes to dominate European history for two centuries and culminates in human history's most telling nightmares – The Third Reich. Many modern countries are defined by pasts that exhibited brute repression, suppression, and violence brought on by cultural and ethnic differences. The popularity of European physiognomy generated meanings surrounding God, gender, and race and these meanings might be seen as at the nexus of the rise of nationalism, colonialism and the "European World Order" that exhibited barbarities in every age. The 'inability' of human sciences to recognize individual and social differences during the Enlightenment can be defined as a fallacy, yes, and also becomes a pressing methodological concern for our study. It is not until David Efron's influential study in the 1940s that the little science of 'nonverbal communication' begins to address the foundational 'primitivism' at work in many social codes.

Western definitions of the categories of race, gender and class were lifted into place during the 18th century. David Bindman has recently argued that "the relationship between morality and aesthetics first emerges in the 18th century writings . . . bound together by the desire to promote the adoption of 'politeness'" (Bindman 2002, p. 46). This conflation of morality, appearance, and the social values of politeness and virtue evolves into the public understandings of race, gender, and nation in the late 18th and 19th centuries. These cultural abstractions are bound, at least in part, by racial typing and the 'universals' of certain physiological categories. Within these years, literary, political, philosophical and scientific discourse had begun to articulate a view of life that emerges out of the power of print media to build knowledge on knowledge, and merge bodies of evidence into intellectual, social, and cultural categories. Descartes, Le Brun, and Lavater, for example, conducted a search for universals among the many non-linguistic expressions conducted under the auspices of church and state and school.

These years are years when western, European and American institutions and sciences built shared definitions for the concepts of nation, race, gender, and nature (Hartley 2001). One example of this 'new consciousness' might be Linnaeus's *Systema Naturae* (1758) which categorizes the world according to four varieties of humanity on four continents in four corners

of the earth, organised by the four elements of air, earth, fire and water. *Systema Naturae* is a decisive publication with regard to the rising tide of racial categories, stereotypes, and features of national identity: “Towards the late eighteenth century it became possible to talk of European, African, American or Asiatic races, each of which might include ever-shifting mixtures of peoples . . .” (Bindman 2002, p. 13).

In these years, Britain, France, and America were all engaged in the slave trade, and institutional racism began to be established based on inheritance of slavery and skin color. These institutions would fuel a full-blown racism in the 19th century, when racism becomes, as Peter Fryer sees it, a systematic and consistent form of bias carried by print medias (Fryer 1984). With direct relation to the tradition of non-linguistic communication, these years also saw P. Camper and Blumenbach begin to measure heads and jaws such that the distance from Brewer’s *The Juvenile Lavater* to Galton’s eugenics is a short one (Bindman 2002). And the danger here is not only ‘racial thinking’. There are numerous, contemporary educationalist studies that promote a similar type of thinking by setting out to prove how teacher attractiveness, ethnicity, and gender are related and confused with high evaluations and ‘positive learning environments’, likeability and ‘warmth. Many of these studies make these claims without exploring the historical and social contexts in which categories such as beauty, politeness, and character are involved (Goffman 1979; Feldman 1992; Pattan 1999).

The essentialist tracts of early nationalism the association of this discriminatory power-knowledge regime with ‘science’ and education, these certainties, spread the knowledge that physiognomy “may appear chimerical, but there is a physiognomy, the rules of which are always true and whose evidences are of service to morality” (Brewer 1812, p. v.). Secular, independent instructional texts are synonymous with the beginnings of the Age of Machinery in Europe and America. Durable, mass produced texts drove efforts to transform forms of sociality and allowed the new, humanist thought to change the relations of people with power (Boyd and King 1964; Jordanova 1999). In all, we come face to face, as it were, with the understanding that the face and hands anchor an associative, communicative system of meaning that creates social values in which spiritual, aesthetic, and nationalist interpretations of signs are passed on. In the words of a 20th century phenomenologist like Levinas,

The face is what one cannot kill, or at least it is that whose meaning consists in saying: “thou shalt not kill”. . . . The prohibition against killing does not render murder impossible . . . But to speak truly, the appearance in being of these “ethical peculiarities” . . . is a rupture of being. It is significant, even if being resumes and recovers itself (Levinas and Nemo 1985, p. 87)

The face is a significant order of social values, the encounter with the Other to whom we bear a first responsibility. Recovering the submerged history of this order of values becomes a form of testimony to the recognition of human ability for error disguised as moral code.

Sources of the Communicative Body

Chapter 5. Interfield 2, Part 3. Vignette: The Silent Way

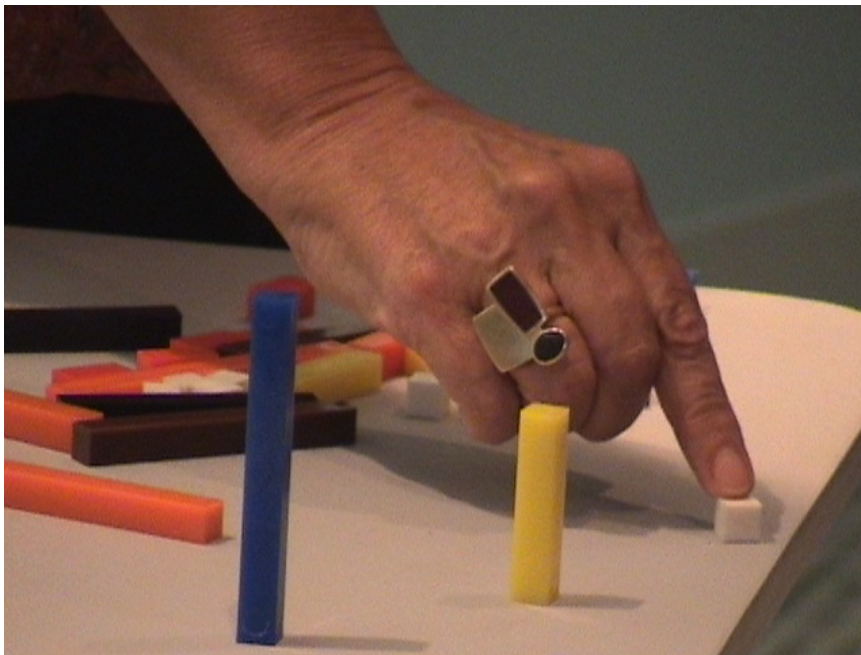
The implicit nature of much classroom communication is the cause of many of the problems encountered by new teacher and where teacher and children have different backgrounds. . . The classroom differs from other social settings, but not always in the way which would be expected from explicit definitions of what education is about . . . We need to consider what should be included in the definition of nonverbal as it applies to the classroom (Neill 1991, pp. 1,2).

It is perplexing that after all this study, when you look at a teaching text, you will find a little bit on intonation in some of them and nothing on kinesics. In any of them, the verbal, vocalic and kinesics are linked for all messages. We just choose to use them in different ways (Fieldwork 2006).



Above: A teacher gestures during the use of the Silent Way (Fieldnotes 2006).

If *The Juvenile Lavater* and our history up to this point reveal how the communicative body can be deployed in the service of essentialist frameworks and humanity's primitive perceptions of difference that we witness in backward glances, a pressing question develops. Is the communicative body a chimera? Is it like heaven, an ideal form and a chimerical peg on which Descartes, Le Brun, Lavater, and Brewer have hung their theories? These questions create the need to consider whether the somatic channels of the face, hands, and voice are not only aesthetic and changeable potentials, but are at work in developmental, cognitive functions as well. Can we find evidence that the communicative body is not only about racial, tribal, and social values, but involves the integration of sign with learning; that is, is there evidence that non-linguistic modalities interface with the imagination? With both short and long-term memory?



Above: A teacher uses hands and objects to teach foreign languages using the Silent Way (Fieldnotes 2006).

In the 1960s, (Gattegno, Brown et al. 1989) Gattegno developed a way of teaching languages that relied almost wholly on gesture. The central idea of the Silent Way, along with other 'nonverbal' teaching methods such as the Gesture Approach, considers somatic learning to be as

effective as phonetic learning. In other words, the connection between memory and experience is linked somatically as well as phonetically.

There is a good deal of contemporary cognitive research showing that the face and hands are channels of communication “deeply integrated with other cognitive capacities” (Roth 2001, p. 365). Congenitally blind individuals use gestures and facial expressions when they talk (Goldin-Meadow 1998). Congenitally deaf individuals have been shown to be able to engage short term memory more readily through the movement of their hands than the comprehension of words, indicating that past conceptions of short term memory might have been formulated on the ‘audio centrality’ of the teachers and scientists (Shand 1982). As the rights of the visually and aurally impaired have expanded, we have learned that not only somatic but visual codes have been demonstrated to be as or more flexible than phonological strings in short term memory (Gazzaniga and Ledoux 1978; Ashcraft 2006); these and other studies would seem to indicate that the face and hands are involved in both interpersonal (social) and intrapersonal (individual) learning; gesture can,

. . . Convey substantive information . . . insight into a speaker’s mental representation. Gesture conveys meaning, although it does so differently from speech. Speech conveys meaning by rule-governed combinations of discrete units, codified according to the norms of a specific language. In contrast, gesture conveys meaning mimetically and idiosyncratically through continuously varying forms (Goldin-Meadow 1998, p. 29).

Beats, Deictic, Icons, and Metaphors

Another type of evidence we have for the place of the body in learning—not only communication—would seem to come from growing taxonomies and vocabularies surrounding the body. With respect to the hands, most researchers acknowledge the taxonomy proposed in McNeill’s *Hand and Mind: What Gestures Reveal about Thought* (1992) in which four basic types of gesture are defined: beat, deictic, iconic, and metaphoric. For McNeill, beats are gestures void of direct, associative meanings and might be said to reflect the rhythm or empathic structure to communication; These gestures can be simple flicks of the hand, tapping, and temporal movements that indicate speaking turns, seeking response, or acknowledging comprehension (McNeill 1992). In a classroom, beat-gestures might also involve what Neill calls ‘wielding’ (Neill 1991); direct, indirect, and instrumental wielding of books, chalk, and

apparatus to support linguistics and influence moods in a beat capacity. They are not visible words, but somatic rhythms in support of words.

Deictic gestures have been called ‘concrete pointing’, and are recognized as the first gestural development in human life, appearing around ten months of age (Roth 2001). Some have suggested the deictic layer of communication to be evidence for gestural language as preceding linguistic, as there is a developmentally early correspondence between work and gestures or things and an unambiguous nature to certain deictic terms such as I and Here. For example, in Native American Sign Language, green is implied by simply “to point at something green” (Clark 1982—original publication 1885, p. 193). In human development, these motions are used as co-occurring features to language development in the young, and not until about the year ten does ‘abstract pointing development’ (Goldin-Meadow 1998; Roth 2001); in abstract pointing, gestures accompany non-present referents. Deictic gestures “can play an important role during classroom interactions because they establish a distinction between figure (topic) and ground” (Roth 2001, p. 370). In aesthetic theory, particular with regard to painting, compositional gesture may be said to be deictic as well, in which even trees, houses, clouds, and stars might be said to be referring to the central figure of the work. As we will see with Giotto, often the hands of secondary figures in a fresco of painting indicate the focus of the work.

Iconic gestures have also been called representational gestures and would be the type of gesture used most in the gesture approach to teaching as they bear a resemblance to the concrete entity or event being talked about. If a teacher were to trace an arch to illustrate the passing of time or make a looping gesture with the hand to indicate the past, these iconic gestures would be said to have a transparent relationship to the idea they convey, such as a narrative event: horizons and vertical dimensions, the past, the passing of time, the circle of the earth, sun and moon, the frame of a face, the open book, pointing out the window to indicate ‘outside’ ‘nature’ ‘tree’, many of these movements are used by teachers as well.

Metaphoric gestures are akin to iconic in that they make reference to something else. But here, where iconic indicates a non-present entity, metaphoric gesture indicates that the hands become something non-present. This might be objects, space, movements, or abstract qualities. The hands become metaphors for inner states such as awe, reverence, etc. In the visual arts, iconic, and metaphoric gestures will naturally appear more commonly, and are not used in support of

speech, but may in fact replace speech or create an embodied understanding outside of speech. “During narrative, iconic gestures more often appear as references to a story events while deictic and metaphoric gestures and beats appear in references to story structure” (Roth 2001, p. 371).

Exceptions to Syntactic Structures

Historically, it may not be unreasonable to suggest that our understanding of how the visual, aural and kinesic systems of the mind function in learning and teaching are still laboring in the shadow of a linguistic bias. We could use the Chomskyan Revolution in linguistics as an example of this bias. In 1957, Chomsky posits the idea of a Universal Grammar, which he will call a deep structure of mind. For Chomsky, the notion is that a deep syntactic structure or patterns—actually mental categories—are innate in each human being. These syntactic patterns are then transformed through rules of individual languages into surface structures. In a curious way, we might suggest that Chomsky inverts Plato and moves the world of ideal forms to inside the brain (Lerer 1996). Deep ‘perfect and universal’ structures (competence) bubble up through the gray matter of the brain and become the shadowy imperfect sentences (performance) in the world of time. Through the middle and later part of the 1960s, Chomsky honed his theory as *Aspects of a Theory of Syntax*. In 1968, he wrote,

The main task of linguistic theory must be to develop an account of linguistic universals, on the one hand that will not be falsified by diversity, but sufficiently rich to account for remarkable complexity and range that are products of acquisition (Chomsky 1968, p. 17)

What this means is that all language study needs to develop universals because all languages are cut to the same syntactic pattern. We do not have to explain the word by word correspondence between languages or gestures. However his linguistic theory has fared since it first appeared in 1957, the Chomskyan Revolution changed the way we think about what defines humanness. Language is what we all shared and is what separates us from the animal and natural world; therefore, language and humanity can be studied as epistemic, objective understandings of how the brain and mind work.

Philosophically, and from hindsight (and even while Chomsky is still alive), we might suggest that his Universal Grammar is a kind of Holy Grail for a theory for human nature (Halliday 1978; Lerer 1991). If we can show that language is a faculty of mind, then it will follow that

language is the source of humanness, the source of culture, the source of exosomatic evolution, the big bang of humanness. If language is a genetic code unfolded in the mind, we have what we need to understand human history: a genetic mutation allowing for language, happening in a single tribe of humans 70,000 years ago, and this explains all that follows--from The Epic of Gilgamesh to Einstein on the Beach. This bio-linguistic reading of human nature opens up onto a broad array of questions regarding the criteria for human nature and human events. It is, in many ways, against the constructivist thought that began to dominate educational theory in the 1960s as well. As seen by Pinker,

. . . taking that (evolutionary) mindset and applying it to the more emotionally charged aspects of behavior, such as sexuality, violence, beauty and family feelings . . . is more controversial in these areas than it is in the study of thirst . . . when it comes to how organisms deal with one another, common sense is no substitute for serious evolutionary theory. We have no good intuitions about whether it's adaptive, in the narrow biologist's sense, to be monogamous or polygamous, to treat all your children equally or to play favorites, to be attracted to one kind of facial geometry or another. There you have to learn what the best evolutionary biology predicts (Pinker 2003, pp. 43-4)

Another of the powerful implications in Chomsky's thinking plays upon the differences between learning and acquisition. If we imagine that we have innate ideas, then human children are not blank slates. There is some category of humanness at birth, even if it is simply a syntactic pattern for language ability. This raises critical questions. If children have an innate function for syntax, of varying degrees of ability, are they also a creature with moral category? (Halliday 1978; Lerer 1991; Pinker 2002) Are we born rational beings? Is humanness then located in embedded deep structures of language alone? If all of this is true, then language is not a social fact, but a kind of moral category, and what follows are the dangerous grounds we have discussed elsewhere. If a child does not speak, is the child human? If a child speaks poorly, or reads poorly, is the child a lesser human being?

Chomsky himself knows the implications of his theory. In 1968, *Language and Mind*, we find a telling quote from the man who initiated a revolution in how we think about the mind and language.

It is fair to suppose that the major contribution of the study of language will lie in the understanding it can provide as to the character of mental processes and the structures they form and manipulate. Therefore, instead of speculating on the likely course of

research into the problems that are coming into focus today, I will concentrate here on some of the issues that arise when we try to develop the study of linguistic structure as a chapter of human psychology.

It is quite natural to expect that a concern for language will remain central to the study of human nature, as it has been in the past. Anyone concerned with the study of human nature and human capacities must somehow come to grips with the fact that all normal humans acquire language, whereas acquisition of even its barest rudiments is quite beyond the capacities of an otherwise intelligent ape, a fact that was emphasized, quite correctly, in Cartesian philosophy (Chomsky 1968, p. 27)

A good deal of weight hangs on the word ‘normal’ in the above quote, which I will discuss below. But first I would like to consider a study by Condon and Ogston (Condon 1966). In their analysis of film of new born babies and their mothers, Condon and Ogston “revealed harmonious or synchronous organizations of change between body motion and speech in *both* intro-individual and interactional behavior” (Condon 1966, p. 338). While this study is not aimed at debunking Chomsky’s Syntactic Theory, it is possible that the deep structures posited by Chomsky are in fact somatic structures established in the first months of life when “the speaker dances in time with his speech . . . The body of the listener dances in rhythm with that of the speaker!” (Condon 1966, p. 338). By blinking and moving and flowing and changing, the infant learns the syntactic rhythms of the language, and by day fourteen, a child has established synchronous relationship with the prosody of their mother’s tongue: “Blending phone into syllable into word, his body moves in a series of configurations of change which are precisely correlated with that serial transformation of . . . speech” (Condon 1966, p. 339). Interrelational synchrony and self-synchrony with the stress patterns of language are shown to establish the structures of language in a mere two weeks’ time.

We can also challenge the linguistic bias with respect to learning in another way. As I have argued above in my methodology, this study has a view of science somewhat in keeping with Popper’s falsification theory. If scientific study is marked by the tension between generalizations—the search for single standards with which to explain the material world—one exception to a rule may only be an exception to a rule; or the exception may itself grow to be seen as a case that undoes what we had previously believed to be true about reality. The ‘local truths’ we find in the margins of our worlds, in aesthetics and the anomalies of practice are seen here as points of alterity that allow for community and culture to have a place in how we define

ontological considerations. For this study, Helen Keller falls into the latter case for a number of reasons.

Keller stands as a well-documented life, a life made real by historians as well as Keller's own written and spoken accounts. Her exceptional life allows us to see that language might not be a faculty of mind in the way Chomsky theorized, but a learned system of shared, cultural signs (Donald 2001). In addition, that the young Keller had awareness but no clear language and no clear thought patterns suggests that she is evidence for the way in which somatic, episodic consciousness interacts with language, evidence for the way in which the primitive, nonverbal and sensate perceptions interact with language in constructing a self and the world around that self.

One of the problems of the Keller case is its place, at least for an American, in the oeuvre of maudlin movies and dramas which celebrated the unique and determined spirit of the deaf-mute. For one of the traditions of an American childhood is watching *The Miracle Worker*, a tawdry and yet strangely uplifting depiction of Keller's life with Anne Sullivan. And it is Sullivan who works the miracle, an odd shift of focus from the achievement of Keller herself. Because of the tradition of this movie and play, it is with some emotional valences I recall the scene from *The Story of My Life* when Keller recounts how Sullivan is able to communicate to her that everything in the world has a name:

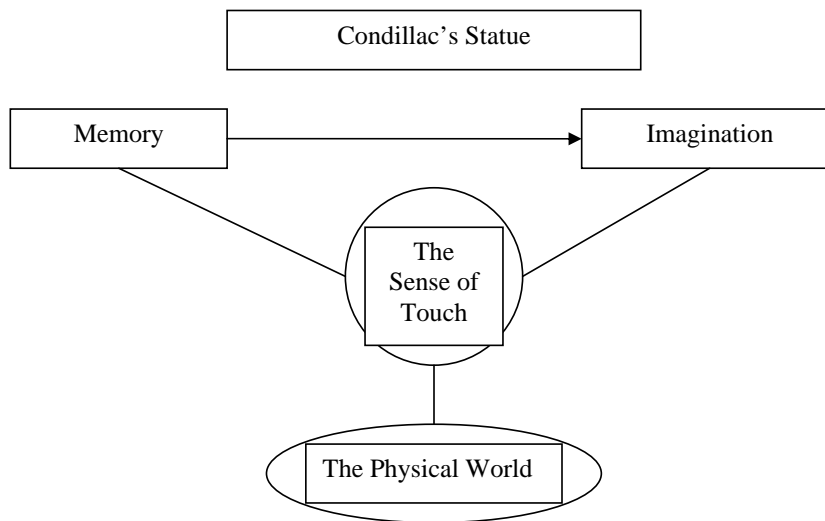
We walked down the path to the well-house, attracted by the fragrance of the honeysuckle with which it was covered. Some one was drawing water and my teacher placed my hand under the spout. As the cool stream gushed over one hand she spelled into the other the word 'water,' first slowly, then rapidly. I stood still, my whole attention fixed upon the motions of her fingers. Suddenly I felt a misty consciousness as of something forgotten--a thrill of returning thought; and somehow the mystery of language was revealed to me. I knew then that 'w-a-t-e-r' meant the wonderful cool something that was flowing over my hand. That living word awakened my soul, gave it light, hope, joy, set it free! There were barriers still, it is true, but barriers that could in time be swept away (Keller, Macy et al. 2003, p. 18, 20)

Keller had to this age lived in a 'phantom' existence, retreating for five years into a shell, and while she had loving and caring parents who did all they could for her, Keller was locked in a world of shadow thoughts, half-formed ideas, and sensations without explanations. Putting her usual positive spin on it, she writes,

I used to feel along the square still boxwood hedges, and, guided by the sense of smell, would find the first violets and lilies. There, too, after a fit of temper, I went to find

comfort and to hide my hot face in the cool leaves and grass (Keller, Macy et al. 2003, p. 4)

When Sullivan made contact with Keller in Alabama, Keller is strangely like Condillac's statue, a living picture of the mental world as it might be without sound and sight (Condillac and Aarsleff 2001; Donald 2001). Condillac had been influenced by the experiential empiricism of Locke. For him, knowledge and ideas are not Platonic forms, something innate at birth as Leibniz, Descartes, and others were arguing at the time (Donald 2001). Knowledge and ideas are constructed by our experience in the world: we come from experience. In order to show this, Condillac postulated a statue that could, using primarily the sense of touch, construct a cognitive picture of the world based on sensation, memory and imagination. Condillac, along with Locke, can be seen as the beginnings of a constructivist theory of cognition, in which we build our minds, selves, and images of the world from the rich (nonverbal) sensual experiences as they are filtered through our senses.



A contemporary theorist of mind, Merlin Donald sees Keller as a living example of Condillac's statue. Because of her talents as a writer, she is able to recount a state of awareness that we do

not normally have access to. In the time period between eighteen months and seven years, without the knowledge of the place words play in the human social world, Keller exists in a conscious state that Donald calls ‘mimetic’. Her knowledge of the world and her facility with mimetic expression were apparently not sufficient in themselves to permit her to understand language. She needed a cultural linkup to achieve this. On her own, “without a lifeline to the culture, she was trapped” (Donald 2001, p. 241). In other words, language was not an innate function of mind, but a learned process of social interaction. Further, it is particularly important to this study to acknowledge that Keller, even without language, was adept at gesturing and had established subjectivity in a limited gestural language. With a world known only by touch, with the words and images drawn on her hand by the ‘miracle worker’ Anne Sullivan, Keller was able to emerge from the murky, mimetic world of an intelligence structured by sensation alone to become one of the 20th century’s most celebrated intellectuals. She learned Greek and Latin, among several foreign languages, studied Braille at the Perkins Institution; attended Horace Mann School for the Deaf; attended the Wright-Humason School for the Deaf; and attended Cambridge School for Young Ladies, Radcliffe College, where she received B.A. Keller held memberships in the National Institute of Arts and Letters (trustee of the American Hall of Fame) as well as Phi Beta Kappa. This is a full and successful life by any standards, to have accomplished this without the use of sight or hearing is “like finding an exception to the law of gravity” (Donald, 2001, page 235).

In relation to Chomsky, or other theorists who see humanness (and learning) as categories of linguistic phenomenon, the exceptional example of Keller is an important one: Was she a human being when she was a phantom? Without the ability to communicate with words? When syntax did not govern her thought? Donald addresses the fact that the case is so exceptional that many people have concluded that Sullivan and Keller were frauds, and that Sullivan would have had to serve as her eyes and ears. And while there is some consideration that Keller was guilty of plagiarizing on a couple of occasions, there is no evidence to suggest fraud. Through the analysis of many legitimate doctors as well as her own achievements, Keller again and again proved herself an extraordinarily hard worker who overcame the tremendous obstacles she faced with a dogged personality, family support, and the help of her teacher. “I am convinced that her achievements were indeed her own and that her story, is, if anything, more believable than most, precisely because her life was played out in a glass jar, under intense scrutiny” (Donald 2001, p. 251).

Comment [EU1]: Do you want to connect this sentence and two fragments?

Linking the somatic, visual and aural channels

Before 1956, nonverbal signs and displays have been known, beginning with Aristotle, as gesture studies, physiognomy, pathognomy, and Augustine's *verba visible*, to name a few of the vocabularies and taxonomies surrounding social fields. In the postwar years, in the shadow of the Chomskyan Revolution in linguistics, numerous popular as well as academic studies, based on social and conceptual changes of the sciences of the day, attempt to reveal the 'truths', channels, and modalities of nonverbal communication with the same certainty enjoyed by Chomsky's invention. The increase in the number of postwar, research communities surrounding the 'truths' of nonverbal communication appears to coincide with the facts, that in addition to developments in linguistics and social theory, many societies around the world have experienced massive economic and cultural change. From the Postwar years through the Digital Age, intellectual work has built up theory and methods to re-assess human communication. In tandem with the rise of cognitive sciences, neuroscience, network science, television, the revolutions in linguistics, as well as other medias and discourses, nonverbal communication has become a 'little science' which presents analytical tools for investigating how and why we pass on information. What has become widely and popularly accepted was that facial expressions communicate a basic set of emotions; the gestures of the hand maintain and regulate interactivity; elaborate meanings and form impressions alongside the delivery of words; the intonations of words, the movement and posture of the body can create an intimacy, warmth, and immediacy that underscore effective messaging and shape communicative, social, learning environments. These pre-verbal languages of the hand and face have been said to 'start at birth' and be central features of social cohesion, attunement, sanctioning, knowing, learning, and communication across human cultures and history (Ekman and Rosenberg 1997; Levinson 1997; Turner 2000; Roth 2001; Kendon 2004).

What has also begun to emerge through the study of languages is a growing body of evidences in gesture studies and cognitive neuroscience that allow us to begin to make distinctions about the interactions of the various modalities of body-thought with words, thought, and learning. The communicative modalities are not only temporal messages involved with social values of race, tribe, or community, but are seen as deeply integrated in the processes of cognition and acquisition of knowledge. While it will be interesting to note how our present knowledge changes, it is impressive to note that in the three centuries of history reviewed in this study, the

knowledge of the body has evolved from the methods for painters into a more academic discourse that allows us to widen our understanding of our communities of practice:

Gestures look upward, into the discourse structure, as well as downward into the thought structure. A gesture will occur only if one's current thought contrasts with the background discourse. If there is a contrast, how the thought is related to the discourse determines what kind of gesture it will be, how large it will be, how internally complex it will be, and so forth. Often, therefore, we can see the overarching discourse structure more clearly in the gesture than in the words and sentences (McNeill 1992, p. 2)

While the epistemology of the communicative body might have been submerged in misreadings of philosophy, theology, and the one-dimensionality of colonial history, as the knowledge emerges, what we come to rescue from the oblivion of history helps us to understand implicit knowledges at work in interrelational fields and how these relate to constructs of social learning. We begin to be able to make the warranted assertion that non-linguistic channels link our mimetic, episodic sensate core with social languages and communicative modalities that develop subjectivities in relationship. The current drive for accountability in education might integrate these findings into curriculum, consider student differentiation within gestural realms, and turn curriculum toward the co-relational, lived experiences as they are represented by body-thought. The Silent Way, the Gesture Approach, the experiences of Helen Keller, and other evidences for learning through touch and gesture provide a new method for understanding the place of the face, hands, and voice in the construction of social cohesion and cooperative values.

Sources of the Communicative Body

Chapter 6. Interfield 3, Part 1: A ‘System of Dissections’

The discovery of a really good teacher is as great a piece of luck as the winning of the first prize in a lottery. Although, as the proverb says, “A blind cow may find a horseshoe,” such a piece of luck does not happen often, and many people who wish to secure a first-rate teacher by paying a large salary may get just as incompetent a person as if they had chosen the cheapest from motives of meanness. Such a misfortune often does happen to people of high rank and great wealth. That it is a very grave misfortune is evidence from the number of men who have paid a heavy price for our erroneous and detrimental system of education, and bewail the consequences of their mistake. There are, however, brighter days in store. The time may come when noble men of every station, and more particularly of the highest, after serious reflection upon the qualities which are essential in a teacher, will arrive at sounder conclusions upon the subject. animated by a parental zeal for Elementary education, they may then do their part in helping to substitute a better mode of procedure than that which comes from our present ignorance (Pestalozzi, Green et al. 1912, p. 322).

The European tutorial system of education that flourished during the age of Descartes had begun to unravel in the late 17th century. At Oxford and Cambridge, for instance, “the English college shrank their teaching faculty down to two overworked and non-specialized tutors” (Stone 2005, p.25). By the 1690s, the once vaunted English system was producing dissipated youths more than scholars. “The regents lay in bed half the day, and drank or brawled . . . while the students rioted in the town . . . They ceased to speak Latin . . . “ (Stone 2005, p. 25) This profligate situation was not, however, happening at the University of Edinburgh, where crucial changes created what would become the toast of European education. Changes in the structure of teaching duties revamped Edinburgh, and these changes contributed to making it the jewel in Education’s crown. In 1789, Thomas Jefferson saluted from across the big water, declaring that “for science, no place in the world can pretend to a competition with Edinburgh” (Stone 2005, p. 25).

What the town council in Edinburgh did beginning in 1708 was restructure the school’s teaching arrangements, which had been based on ‘jack-of-all-trades tutors’. The town council began

appointing professors in what might be called the origination of the Disciplines and specialized faculty. Students poured in from both Europe and America to study with professors the likes of Hutchinson and Smith. It appears that the selection of teachers as a public rather than parental duty resulted in Edinburgh becoming the center of an intellectual and scientific progressivism. Among the students of the sciences that Edinburgh produced will include Charles Bell, who marries the aesthetic theory of the communicative body to anatomy and physiology, and might be seen as the historic moment when study of the communicative values of the body begin the slow process of leaving the submerged confines of aesthetics and take their place alongside other disciplines at work in producing useful knowledge such as medicine. While aesthetics has been and continues to be a marginalized discipline, the ‘last hired and first fired’ at all levels of schooling and public funding, medicine, also considered an art, is the founding branch of the biological sciences. The communicative body as a ‘language’ of disease and nature allows for the body to remain outside of the social sciences. With Bell, we begin to see the communicative body’s connection to organic structures. The art of medicine, and surgery in particular, allows for the body to be expressive not only of inner sensations, but expressive of natural processes. The body follows the course of nature itself. This study views this as an awareness made possible through diachronic reading as well. The progressivism of medical science would produce, among other head-of-the-class students, Charles Bell, whose work in anatomy further unveils the submerged nature of the communicative body.

Bell (1774 – 1832) is remembered primarily for ‘Bell’s Palsy’, but his treatises on *The Hand* (1833) and *Essays on the Anatomy of Expression in Painting* (1806), are “both an unusually rich case study for social and cultural history and . . . an example for historiographic debate” (Jordanova 1995, p. 80-1). The books illustrate the submerged knowledge of the communicative body as it surfaces out of 18th century theology and aesthetics and into 19th century naturalism. Bell effectively tropes Lavater’s scientific physiognomy to include both divine aesthetics and the empirical observations of a classily trained surgeon. About his “Natural Physiognomy” Bell writes,

In the expression of emotion and passion, whether by the gesture or in the countenance, there is sufficient uniformity to be the object of art and reasoning; and though we cannot hope to obtain a perfect rationale of this curious and interesting science, something certainly may be done in settling a criterion of just and true expression (Bell and Classics of Medicine Library. 1984, p. 1)

While Bell's work will have implications in anatomy and physiology, we have to see him, also, as a transitional figure who reflects the tensions of the age between discourse involving god and beauty and reasoning. As with Le Brun, Bell's interpretations of the body's messaging is acceptable knowledge to be employed by painters and theatrical directors:



Above: An image from Jelgerhuis on how an actor or actress might give the impression of joy (Golding, Jelgerhuis et al. 1984).

Following Bell throughout the 19th century, manuals developed by Thomas Betterton, Gilbert Austin, and Jelgerhuis used both Le Brun and Bell's work on the communicative values of the face and hands in theatrical handbooks. These manuals on how to effectively convey inner

truths, passions, and states of mutual understanding on stage were not an entirely a new form of education. Oratory and eloquence were a part of educated life as well. For instance, Dene Barnett sees this golden age of gesture, based on Roman precepts about eloquence and oratory, as continuing from the early 16th century to the end of the 18th century (Barnett 1989). Jesuit schools had particularly rigorous courses in declamation, with gesture of verse and prose. Students would have regularly acted in drama and sometimes in operas as a basic part of their courses. These courses were based in part on Quintilian *The Orator's Education*, and included Thomas Wilson's *The Art of Rhetoric* (1553). After Le Brun, the most extant evidence we have of this tradition of educational training of the communicative body is through stage manuals from Austin (1806), Betterton (1712). After Charles Bell further refined the way in which we understand the musculature of the communicative face, Jelgerhuis (1827) delivers what is still considered an exemplary text in the field of stagecraft. Jelgerhuis developed *The Art of Gesture* around nine 'themes' that have import for representation of passions and body-thought: Gesture becomes a highly articulate art, with a vocabulary and 'dictionary' known to a wide community of actors, singers, directors, and performers throughout Europe and the Americas. The vocabulary includes detailed expressive devices, as well as gestures and attitudes centered on the hands and eyes as the principle instruments. The basic function of gesture becomes to create a concrete picture of inner states. These states are visual representations of the language of the drama itself and are studied to insure beauty of movement and expression. This art is often referred to as a language: *l'eloquence du corps*, and gives actors opportunities to show precision, beauty, panache and, in the presentation of extreme passion, to give a display which was described as 'baroque' in amplitude of its intensity (Barnett 1989). We could argue over how appropriate these commands are for teacher training. The point here is that as we enter the 19th century, our historical narrative shows the epistemological body continues to be 'marginalized' in stagecraft and painting; at the same time, Charles Bell begins to draw the knowledge over into medical texts.

Bell apprenticed with his older brother John, and published while in medical school "A System of Dissections, Explaining the Anatomy of the Human Body, the Manner of Displaying the Parts and their Varieties in Disease" (1798). While surgery is generally mythologized as a gentlemen's craft, surgery and medical schools at the time were not immune to profound questions of ethical practice. There an excellent study of 19th century London by Sarah Wise

(Wise 2004). The swelling population and class divisions in the United Kingdom, the social milieu that will influence Malthus and his studies of the coming 'population bomb', also gave rise to body snatching and gangs who traded in 'fresh subjects' for surgeons. Wise's *The Italian Boy* is the story of the catching and killing of a 14 year old orphan because the fresher the body, the more money the snatching gangs would receive. This so called "Resurrection Trade" grows out of the medical fields hunger for bodies from which to explore the 'invisible courses' of disease and the regulatory systems of the body. For a contemporary critic, Ludmilla Jordanova sees,

A good deal of mythologizing was involved in terms already established as plausible at this particular historical moment. Nonetheless, this image / self-image was fragile, it was delicately poised between social benefits deriving from knowledge well used, and disaster derived from certain kinds of excess (Jordanova 1999, p. 83).

Bell and his brother were from a landed family, and had access to notables such as Henry Brougham, who had founded *The Edinburgh Review* (1802) along with Francis Jeffrey and Sydney Smith (Hartley 2001). Bell has been called a 'minor figure' in the Scottish Enlightenment, though his work falls at the tail end or outside a period of time that began with Hutchinson, and included Adam Smith and David Hume. These figures established a number of enduring philosophical concepts of social life with respect to moral philosophy, history and economics. The emerging mercantile unions and early institutions of early capitalism—medical and educational—created concern among a cache of professors at the University of Glasgow and in Edinburgh as to how Scottish values and cultural life would fare in the new political economies of 'modern' Europe. Their responses form a notable body of work aligned with national; philosophic; and, in Bell's case, medical and aesthetic categories. With regard to the communicative body, Bell represents a unique flowering of rational thought about the face and hand that enables us to move toward identifying the symbiotic relationship between facial expressions and collaborative social values established by body-thought.

OF JOY AND DISCONTENT.

In joy the eyebrow is raised moderately, but without any angularity; the forehead is smooth; the eye full, lively, and sparkling; the nostril is moderately inflated, and a smile is on the lips. In all the exhilarating emotions, the eyebrow, the eyelids, the nostril, the angle of the mouth are raised. In the depressing passions it is the reverse. For example, in discontent the brow is clouded, the nose peculiarly arched, and the angle of the mouth drawn down very remarkably.

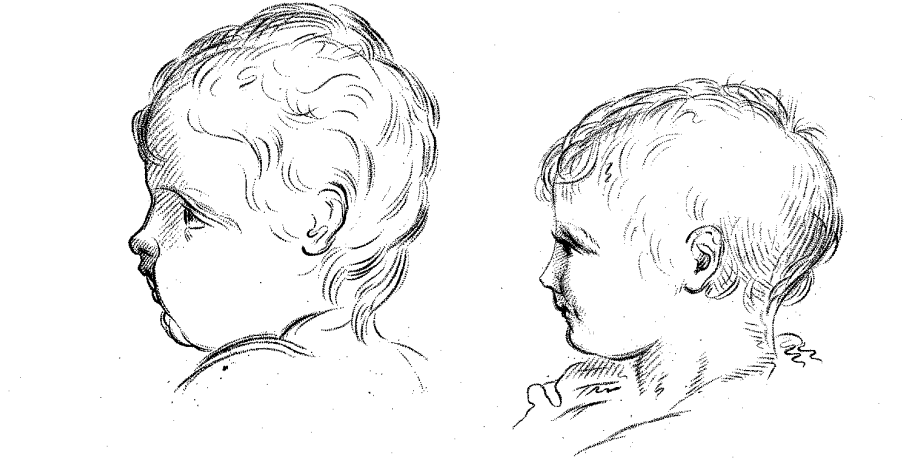


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Above: Detail from *Essays on the Anatomy of Expression in Painting*, Charles Bell, 1806. (Bell and Classics of Medicine Library. 1984, p. 133).

In *Essays on the Anatomy of Expression in Painting* (1806) Bell's meta-concerns are of the connection between beauty and expression. Like Le Brun, he is writing a textbook for painters, and though the book is illustrated precisely, Bell preserves some taste for the visual power of facial expressions: "Anatomy stands related to the arts of design, as the grammar of that language in which they address us" (Bell and Classics of Medicine Library. 1984, p. vi.). With Bell, the emergence of a modern conception of communicative ability centered on the body is a delicate and conflicted operation. For example, if we are made in God's own image, as the clergy would still insist, to suggest that God is a 'limiting function' might be seen as heresy. However, in the enlightened climate of Edinburgh at the start of the 19th century, Bell is able to

address these issues through a consideration of aesthetics as well as anatomy. A good example of Bell's 'modern' thinking is apparent in his analysis of sketches by Fiammingo.



Details from sketches by Fiammingo (Bell and Classics of Medicine Library. 1984)

Commenting on the above plates by Fiammingo, who was a 16th century celebrated for his sculpture and models of children, Bell writes the artist is,

... Out of nature. Instead of having given to the back of the head its due preponderance, he has accumulated the mass to the top, and proportionally diminished the space from the ear backward... I believe he has in this deviation from nature proceeded on the same principle with the ancients; presenting us with an ideal form, instead of strictly copying nature (Bell and Classics of Medicine Library. 1984, p. 31).

Here, Bell implies the human body is not an 'ideal' form, made in the image and likeness of God. Instead, the body is in nature, though still perhaps an exalted one. The point is that Bell is emblematic of the movement away from theological holds on body-thought. With the echoes of Hume noted, Bell writes,

. . . we not only see untied all the capacities for expression . . . but we find besides . . . instruments of that universal language which has been called instinct, which at least produces something like the effect of innate sympathy, and seems to be independent of experience or arbitrary custom. (Bell and Classics of Medicine Library. 1984, p. 88).

Bell's choice of the words 'the effect of innate sympathy' is indispensable and replaces the logical difficulty we have so far found in how the body creates social and relational values. This develops our ability to comprehend, historically, the motion and emotion of the communicative body as involved with the sympathies of social being, and this involves not only a new conception of 'man'. Contemporary theorist Lucy Hartley suggests this new conception of 'Man' involves a new conception of God as well (Hartley 2001). In this way, Bell embraces two sides of the epoch's coin. The flaw with ancient artists such as Fiammingo is they are 'out of nature' and offer ideal forms as opposed to seeing the reality of the human form. At the same time, Bell embraces the natural lines and composition of human form as the expressions of the immutable laws of God. He sees our perceptions limited by our sense organs, while at the same time embracing an idea of nature as an ordered and balanced reflection of God's design. Most importantly, he sees aesthetics and anatomy as concerned with the expressive capacities of the human face and hand, meaning-making through the body is a principle of association between meaning and nature.

Bell's position with respect to the European establishment of racial bias and its relationship to judgments of beauty and national character is a curious and at times conflicted one as well. While he uses racial phrases such as 'European head', he also concludes, and stands against the findings of Blumenbach and Camper with regard to facial lines as a test of national character. He writes,

. . . that there is not sufficient distinction in the skulls of different nations to lead us to refer them to different origins, and that they differ in no more remarkable degree from each other, than we see individuals of the same species of domestic animals differ (Bell and Classics of Medicine Library. 1984, p. 39).

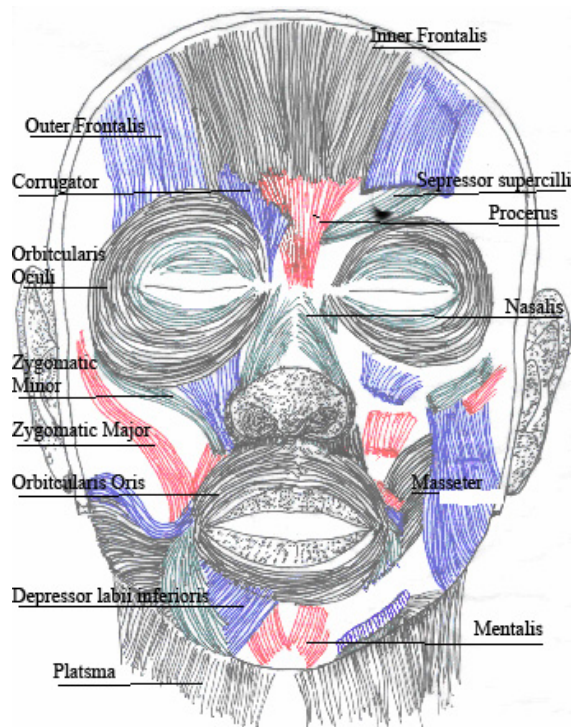
Instead of mechanical or ideal rules of composition, which lend themselves to 'types' and bias toward 'types', in his lectures to artists Bell instructs painters to draw from what they can 'hold in their hand' so as best to exemplify nature and natural forms as they are. This tension in the relationship between God, man, and nature at this time is a taut and confusing matter. The

teleology of Latin Christianity in the Middle Ages has become a residual hegemony. The receding sea of faith allows doctors and philosophers to explore the general laws of matter from perspectives that do not have to be approved by the “pastoral power” of the church. We might illustrate this ‘moral flux’ of the times through the fiction of Mary Shelley, who in 1818 published what will be seen as the apex of Gothic fiction—*Frankenstein, or The Modern Prometheus*. Shelley’s novel can be read as a comment on medical science freed from the constraints of the church’s moral ordering. “They (doctors) tended to present this life in its most stable form, Shelley is its least stable one. One of the monstrosities of the book is, of course, Frankenstein’s psyche” (Jordanova 1999, p. 84).

Bell’s work becomes important for this study in two ways: he moves the discussion of physical expression away from the sticky issue of national identity and toward an understanding of beauty as a natural averageness, not idealised form. Bell calls Joshua Reynolds theory of beauty ‘ingenious’. That view found beauty to be “the medium or centre of the various forms of the individual; that every species of animal has a fixed and determinate form, towards which nature is continually inclining, like various lines terminating in a centre, or like pendulums vibrating in different directions over one central point, and as they all cross the centre, though only one passes through any other point, so it will be found that perfect beauty is oftener produced than any one kind of deformity” (Bell and Classics of Medicine Library. 1984, pp. 43-4). This coincides with some thinking that understands our conceptions of beauty as a love of the average. It is not the freakish or extreme attributes of the human form that a social group considers ‘beautiful’. Rather, the beautiful are, in a way, freaks of averageness. Bell also locates this ‘medium’ of beauty in concordance with emotions and expressions and indicates the possession of expressive ability conforms to the possession of the intellectual powers. Beauty by itself is not remarkable, but becomes remarkable when exercising the variety of expressions available. This transforms beauty into something that expresses not only character but intellectual development as well.

The second important result we get from Bell is that he animates natural physiognomy as of this world and not a province of God. Bell accomplishes this separation of the body and god with a decidedly technical turn. After Bell’s work, we no longer have to represent the human face (and emotion and beauty and character) with regard to the ‘invisible’, aesthetic concepts such as

passion, emotion, and divine law. We now have a vocabulary of musculature and can name the muscles that create the interrelational values of emotions and passions:



Above: (Fieldwork 2006)

If Bell is a ‘minor’ figure of the Scottish Enlightenment, he is also an emergent figure in the historical transformations of body-thought. In one way, he anticipates Wittgenstein’s resolution of Hume’s skepticism when he writes, “The operations of the mind are confined not by the limited nature of things created, but by the limited number of our organs of sense” (Bell and Classics of Medicine Library. 1984, p. viii). Indirectly addressing Hume’s skepticism, Bell proposes that our organs of sense—bodily, physical sensations—orchestrate external reality into perceptions limited by the senses themselves. The nature of the self and its meaning is limited by individual, sensory capacities. This is a critical distinction, and a rather modern conception of the communicative self. This ‘middle road’ regarding passion and non-linguistic expression, the

centrism first carved out by Descartes between a world ordered by God and a world ordered by nature, will encounter its roughest critic in Darwin. Bell had written that the most remarkable muscle in the human face is the coorugator supercillii, a muscle “peculiar to man”, which knit the eyebrows with an enigmatic effect which unaccountably, but irresistibly, conveys “ the energy of mind” (Bell and Classics of Medicine Library. 1984, p. 99). In the margins of his copy of Bell’s book, Darwin wrote, “Monkey here? . . . I have seen well developed in monkeys . . . I suspect he never dissected a monkey” (Swisher 1967, p. 40).



Drawing of the nerves of the face. Often, Charles Bell’s artwork was considered his own, but in fact his brother was the artist who sketched some of the earliest representations of the expressions of the human face.

Sources of the Communicative Body

Chapter 6. Interfield 3, Part 2: The Man Who Murdered God

At the level of society the new knowledge is relevant as well . . . Some of the regulatory devices available to humans have been perfected through millions of years of biological evolution, as is the case of emotions. Others have existed for just a few thousand years, as with the codified systems of justice and sociopolitical organizations . . . The science of emotions and feeling . . . is likely to apply to a broad range of social policies (Damasio 2003, p. 287-88)

On the Expression of Emotions in Man and Animals is the last of Darwin's four books that make up his theory of evolution. While compiling the third book, *The Descent of Man* (1871), Darwin had left out a chapter on the expressions of emotions in man and animals. The non-linguistic ways in which we express emotions needed its own book, one that will not enjoy an audience for one hundred years.

Darwin's evolutionary theory is often seen to identify life's purpose as 'more life'. This interpretation of the theory of natural selection has become widespread and might be said to be how we understand Darwin some one hundred and fifty years after he laid out his theory. In the last book on evolution Darwin seems to move away from the idea that life only wants to survive. How social groups construct social cohesion is as critical a feature to 'fitness' and this idea, as noted above, needed its own book. Though it initially sold over five thousand copies (a good total at the time), *On the Expression of Emotions in Man and Animals* has often been the submerged peg in evolutionary theory. Not until the last quarter of the 20th century did Darwin's work on non-linguistic expression and social cohesion emerge to find an audience, and then it was primarily an audience of researchers of nonverbal communication (Darwin, Ekman et al. 1998).

Imagine how Darwin's view of laughter and smiling might have been read in Victorian England. We tend to think of laughter now as sparking the immune system, relaxing our beings, and as a

possible answer to the killer asteroid mentality we all have in the age of terror. In the book that completes his theory of natural selection, Darwin argues that laughter has been around a long time and is a way of communicating that we share with other species. Darwin makes note that “monkeys” (as he called the Simian apes) were so close to us in emotional expression that it was a question of whether the “so called races of man” should be ranked as distinct species or varieties. He saw in Rengger’s chimpanzees expressions of pleasure, joy, and laughter, expressions quite similar to human expressions,

Young chimpanzees make a kind of barking noise, when pleased by the return of any one to whom they are attached. When this noise, which the keepers call a laugh, is uttered, the lips are protruded . . . When we laugh heartily, a similar movement, or quiver, may be observed more or less distinctly in our jaws . . . (Darwin, Ekman et al. 1998, p. 132-4).

In keeping with his interpretation of nature-as-continuum, Darwin had begun to catalog and describe non-linguistic expressions in 1838. He had been startled to awareness by the birth of the first of his ten children. The understanding that certain emotions are conveyed non-linguistically, an understanding Darwin had also found in the work of Charles Bell, had enchanted Darwin even before he had sailed on *The Beagle* (Browne 2003). In addition to his worldly observations from *The Beagle* and his work on mollusks, over the ensuing two decades, Darwin was also keeping notes on the pragmatic way in which social groups communicate without words. For example, of a phenomena such as an angry man, he observed, "With mankind some expressions, such as the bristling of the hair under the influence of extreme terror, or the uncovering of the teeth under that of furious rage, can hardly be understood, except on the belief that man once existed in a much lower and animal-like condition" (Darwin, Ekman et al. 1998, p. 142).

The critical framework of Darwin’s theory has been well established. From Linnaeus, through Lamarck and Darwin’s own grandfather, Erasmus, through Spencer and Malthus, Darwin developed the idea of mutability of species. Yet, Darwin saw that natural selection and ‘survival of the fittest’ told only part of the story. The other chapters of that narrative of natural history are cooperative strategies, collective cohesion, and socially-shared meanings that make a group more suitable to an environment than an individual standing on their own. Darwin himself was never comfortable with the phrase ‘survival of the fittest’, a phrase picked out of Spencer

(Browne 2003). His 1872 work on expressions put back the elements that describe social fitness, a vital element in survival strategies: man being the most emotional of the animals goes a ways toward explaining how a sophisticated central nervous system correlated with a wide frequency and complexity of emotional expressions. This communicative, emotional dexterity stands at the center of social organisation (Hebb 1949).

The Shared Work of Social Organisation

In the immediate decades following the publication of *The Origin of Species*, the concept of natural selection was used to explain everything from eugenics, to social liberalism, to the many social inequities of industrial society (Morton 1984). People the likes of Nietzsche, Walter Bagehot, Leslie Stephen, and Karl Pearson all employed Darwin's idea to advance social theories that explained inequalities. But if survival of the fittest was all there was to the question of life, how do we explain the fact that we exist in social groups? Nietzsche's Zarathustra could stand on his own, yes, but what about the rest of us? Among the early critics of Darwin was the Russian aristocrat, Petr Kropotkin. Kropotkin would not have had access to a translation of the work on the expressions and social organisation. Kropotkin's 1902 book, *Mutual Aid: a Factor of Evolution*, issued an attack not necessarily on Darwin, but on Darwinism, on Huxley and social Darwinism. In the first chapter of "Mutual Aid", Kropotkin writes,

As soon as we study animals--not in laboratories and museums only, but in the forest and the prairie, in the steppe and the mountains--we at once perceive that though there is an immense amount of warfare and extermination going on amidst various species, and especially amidst various classes of animals, there is, at the same time, as much, or perhaps even more, of mutual support, mutual aid, and mutual defense amidst animals belonging to the same species or, at least, to the same society. Sociability is as much a law of nature as mutual struggle. . . . if we resort to an indirect test, and ask Nature: "Who are the fittest: those who are continually at war with each other, or those who support one another?" we at once see that those animals which acquire habits of mutual aid are undoubtedly the fittest. They have more chances to survive, and they attain, in their respective classes, the highest development of intelligence and bodily organization. . . (Kropotkin 1902, pp. 5-6).

Kropotkin was issuing an attack on Darwinism, an attack on Malthus, Spencer, and the concepts of Social Darwinism. And he makes a good deal of Darwin's proximity to Malthus. Other writers have also noted the cultural basis—or bias—for Darwin and Spencer's phrase: survival of the fittest. Muhlhauser (Muhlhauser 2003) is one contemporary theorist who also finds

Malthus's racial ideas as polluting Darwin's science. Kropotkin is not alone here. Looking for evidence of cooperative, social organisation in nature, Kropotkin notes how unsuitable ducks seem for life in the world. Surely a natural law requiring the struggle of individual against individual, even within a singular species, would have wiped these webbed-footed, maladroit misdirection of evolution off the face of the earth long ago. But look, ducks are everywhere! How do we explain the incredible excess of social animals in nature?

With regard to cultural influence, it is interesting that Kropotkin is researching and writing in Russia, the sight of one of humanity's long and failed experiments with a collectivist form of government. In other words, there are cultural underpinnings to Kropotkin's thinking as well as there are to Darwin's. In fact, when Kropotkin shifts his view from the animal to the human world, we find echoes of Engels, Lenin, and Marx (all suspiciously absent from his notes). Kropotkin will live to see the Bolshevik Revolution and Lenin's storied train ride to Moscow; however, Kropotkin dies in 1921, at a point when the idea of the Russian Revolution had not succumbed to the Gulag and mass murder. When we think of Trotsky's murder (1924), combined with Kropotkin's death, we might suggest that two of the more progressive thinkers in the early socialist state perished, and with death their influence was muted as well, without too much mutual aid for either.

The point here is that Kropotkin attacks a truncated version of Darwinian theory, the theory of natural selection alone does not explain evolution. At each stop in human history we find mutual aid, in addition to competition. This has implications for our understanding of education and communication, an element of mutual aid and the foundation of social networks. George Kennedy's definition of natural rhetoric would fall in line with Kropotkin's view: among social animals, we can also observe directionality that favors communication and cooperation rather than the use of force (Kennedy 1998).

On the contrary, the work of Dawkins, Gould, other Darwinists, and neo-Darwinists fall clearly to the side of Darwin's first idea: arms races define interspecies relations, and these arms races have been seen to create, are creative forces, in the sense that the defense mechanisms of one species against another is an engine in evolutionary (sic) politics. It might be a little fun to

suggest that the nuclear arms race—the Cold War—was a grand drama arising out of the competing views between Darwin (the West) and Kropotkin (the East). Speculation notwithstanding, sociability and the need of mutual aid and support are such inherent parts of human nature. “At no time of history can we discover men living in small isolated families, fighting each other for the means of subsistence” (Kropotkin 1902, p. 153).

Darwin’s Second Go

While Darwin would not have been privy to Kropotkin’s attack on Darwinism, he was more than aware of the importance of social cohesion, and *The Expression of Emotion in Man and Animals* elaborates his ideas in a classical thesis. It is written in perhaps the most passionate and moving of Darwin’s often stilted prose style. (If survival of the fittest in prose has anything to do with style, Darwin himself may have feared extinction.) This work had begun in 1838; and when Darwin did finally return to complete the work, one of his main methodologies was a questionnaire, sent out in 1867, that contained sixteen questions aimed at establishing universals of expressions among ‘all the tribes of the earth’. He tried to sample as widely as he could and received thirty-six answers “several of them missionaries or protectors of the aborigines” (Darwin 1896, p. 17) These thirty-six answers provided Darwin with what he thought was enough data to complete his ideas on social cohesion, cooperative strategies and their non-linguistic modes of expression.

As noted, Darwin’s curiosity in this field had begun when he read Charles Bell’s work on the musculature of the face and the way it related to the expression of feeling states that, in turn, related to beauty, joy, discontent, etc. His journal entrees begin at the birth of his first child, when he saw that we begin to form expressions in the first moments of life, without words: The eyebrow flash, the nose wrinkle, the disgust face, these are the basis for what Darwin thought universal emotions, grounded in our deep, common anatomical-emotional history we share with many of nature’s creatures. These are the vestigial sources of the emergence of sociality across the continuum of nature. In the introduction, Darwin speaks to Bell, who in 1806 “laid the foundations” for the study of non-linguistic expressions as a branch of science. How a mother relates to an infant,

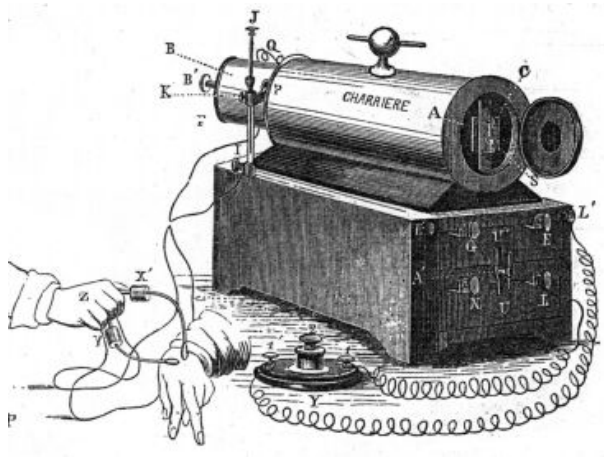
the sympathies we feel for one another are in themselves of much importance to our welfare . . . they reveal the thoughts and intentions of others more truly than do words, which may falsify (Darwin, Ekman et al. 1998, p. 359).

One of Bell's points reiterated by Darwin is noting that the muscles around the eyes are "involuntarily contracted during violent expiratory efforts" and expressions of laughter, surprise and pleasure (Darwin 1896, p. 2) This interplay between what is voluntary and involuntary becomes the ground for what has been called the 'biological origins of culture', a debate that ran through the 1990s and goes on today, which we will discuss briefly below. For now, what aided Darwin most in his claims was the photograph. As Paul Ekman notes, no one seems in any rush to credit Darwin with being one of the first researchers to use a camera and photographs for data collection and data (Darwin, Ekman et al. 1998). Nevertheless, when the camera arrived, sketches became secondary to photographs. For Darwin's book, the more influential of these early photos on the face and communication were taken from the work of Guillaume-Benjamin-Amand Duchenne du Boulogne.

The Duchenne Smile

Duchenne's central work would be the *Mechanism of Human Facial Expression* (1862). That this work appeared only four years after Darwin's *The Origin of the Species and The Descent of Man* (1858) is not just a happy accident, as Darwin would liberally use Duchenne's work in his book on *Expressions* (1872). Duchenne had been regarded in his time as eccentric and socially awkward, an impression driven by some life-changing events. His first wife died from puerperal infection shortly after giving birth to a son and when his second marriage failed, Duchenne fell into what appears to have been a massive depression during which he gave up on the idea of family and turned his infant son over to his mother-in-law. Depressed, alone in his room and--we can speculate--picking at himself one day, Duchenne connected an electrified fiber to his skin and realized he could make his muscles contract. This discovery led Duchenne out of his funk and back to his work. He invented what he called "the harpoon", because the clever little instrument he used, could extract tissue from the muscle. Electrified, it could stimulate the muscle and make muscles contract at the will of an experimenter. The harpoon would allow Duchenne to enlarge Bell's map of the musculature of the face and add to it the correspondence between musculature and feeling-states. When Duchenne died in 1875, he had still not gained

respect from the local medical community. Several decades after his death, Parisians erected a monument to honor the eccentric doctor.



Above: A drawing of Duchenne's apparatus—the harpoon.

The harpoon and the biopsy technique alone do not allow Duchenne to make his most important discoveries. For that, he needed some human help and it came in the person known only as the Old Man. the Old Man suffered from a kind of palsy and had lost total motor control of his face. With the Old Man as his subject, Duchenne was able to begin to stimulate each of the one hundred twenty-two muscles in the face. He carefully mapped out how the facial muscles related to our communicative, gestural displays.



Above: Duchenne's Old Man (Duchenne, 1862).

While some evolutionary biologists and psychologists and linguists insist that humans are defined by language and language's ability to "make" the worlds of culture and technological invention, our facial expressions indicate advanced social organization around the ability to communicate inner states without words; what is more, this ability would have a much earlier genesis than language (Wundt 1973; Kendon 2004). How long has the human emotional system been in place? Human non-linguistic, emotional communications would appear to have a much earlier genesis than language. In fact, some of our closest relatives—the bonobos—have the exact same muscular structure in their faces capable of a great many variations of expression. If "human" means "language", we also have to allow for the fact that the organic layers of our minds includes a propensity for emotional exchange that can be seen to predate spoken language. This vestigial 'feeling brain' and how it interacts with the neo-cortex is a subject of a good deal of educational, cognitive, and neurological science (Damasio 2003; Johnson 2005). For Duchenne, the vestigial emotions were a language because they have a fixed set of 'universal and immutable meanings'. The face is a mode of expression outside of language, prior to language, that contains its own codes of veracity and manipulation. Duchenne mapped with great care what he called these universal and immutable gestures of the feeling brain. In the course of this mapping, he comes upon many new ways of discussing how we communicate our inner states to one another, but the one I want to focus on here is what he discovered in the movement of the pars lateralis muscle near the eyes. This muscle appears only to contract when

a person smiles with genuine delight. The movement is not present during a false, halfhearted, closed mouth smile. So what some theorists call the “Duchenne’s Smile” is anchored by an intriguing claim: We cannot fake our delight (Duchenne and Cuthbertson 1990).

Truth and Subjectivity

The place of veracity and truth in communication is a matter of some concern. To some theorists of language and evolutionary psychologists, ruse and manipulation are seen as possible reason for the development of cerebral subjectivity. This is the idea that our attempts to deceive on the one hand and not be deceived, on the other, would have resulted in a cleverness ‘arms race’ could have taken highly social animals to a new consciousness. Eugene Morton has a nice synopsis:

The capacity to deceive implies that the deceiver (animal A) can attribute to the dupe (animal B) an awareness or quasi-thought process similar to his own. It also implies that A knows that B will react in a predictable manner to A’s signals. It implies that A has a kind of self-awareness and a capacity for fairly high-level prediction. Counter deception implies even more: that A wants something, that A will mislead B about it, that B knows that A wants that something and is going to try to mislead B about it, and so forth . . . leading to an increasing sophistication in reading the probably intentions and thought processes of the other, a game of ruse and counter ruse and counter-counter ruse with which we are all too familiar in many of our everyday informal as well as formal negotiations (Morton and Page 1992, p. 13).

Duchenne’s findings would appear to contradict these speculations: In the human emotions we sometimes engage in a richness of contact that cannot be feigned. A genuine smile written on the face is difficult to be formed by lying. If we are to communicate the truth, as it were, if we were to create the cooperation, trust, and transparency required for social organisation, it is in the ability to detect the truth of another’s feeling. Face-to-face contact, it seems, can only be replaced by words at the expense of a deep level of understanding. The point here is, that as Bell, Duchenne, and Darwin grappled with the submerged knowledge of the communicative body in the 19th century. We begin to see aspects of the human mind and muscular and nervous system as vestigial. The structure of our communicative systems, our brains, faces, hands, and eyes are the products of hundreds of millions of years of evolution. As recently pointed out by Merlin Donald,

It is possible to pursue the humanities and social sciences without confronting the idea of vestiges because these fields naturally assume that humans are completely distinct from other creatures, as if it were a viable philosophical option simply to think our biological origins out of existence. This is one very good reason for the continuing rift between the humanities and the natural sciences (Donald 2001, p. 106).

Paul Ekman, who can be seen as the person responsible for renewing interest in Darwin's work on expressions, has suggested that Darwin subsumes the communicative, social functions of facial expression to biology as a reaction against Bell, Lavater, and Le Brun's theological readings of the face (Darwin, Ekman et al. 1998). This biological approach poses some difficulties, and might be seen as a limiting vocabulary. When Darwin's work is 'rediscovered' in the 1960s, his view of the functionality of facial expression and gesture—his claim of systematic evidence on the question of universality of expressions--will determine some goals within contemporary research and shed some light on Donald's depiction of the rift between the sciences.

Through the middle part of the 20th century, Margaret Mead, Franz Boas, Ray Birdwhistell, Silvan Tompkins, and other anthropologists argued that facial expression differ from culture to culture as much as language, customs, attitudes, and values (Darwin, Ekman et al. 1998). When Darwin's work resurfaces, in the research of Ekman and Freisen among others, this interplay between cultural relativism and biological 'universals' will shape a good deal of research aiming to bridge human culture with biological origins. We find the discrepancy at the heart of the modern debate on the subject of a human nature (Pinker 2002).

Bell, Duchenne, and Darwin's arguments about universal, non-linguistic expression have not been corroborated by some anthropologists. For example, Mead has pointed out that human infants are not born with either social meaning or reason; these have largely been seen as socially and culturally constructed human events. Instead, we are born with certain capabilities. We are born with a cry, born with a facial musculature able to express. Parents will turn a cry into a cultural utterance, wrought with meaning, but at first, the cry is a "biological act," an involuntary instinct. Parents also will give social meaning to the expressions in the face. But at first, the child simply possesses the instinctual urge to express (Mead 1943), just as we are born with the capacity for maleness and femaleness, and these qualities are drawn and brought into relief by cultural practices. Facial expressions, too, can be seen as a kind of potential as a child

is brought into social discourses. That the potential for these expressions is ‘hard-wired’ or biologically or genetically determined is not as much a concern for this study as the ability to learn how to express ‘the effect of innate sympathy’, particularly in a learning environment.

Human infants are intentional, conscious and personal; that above all they have a faculty of intersubjectivity which is in embryonic condition in the neonate and which soon becomes the central motivator and regulator for human mental growth (Trevvarthen 1979, p. 530.)

This intersubjectivity in which social meanings are created is of a non-linguistic variety. Within thirty-six hours of birth, the human infant can begin to imitate the emotional facial expressions of the nurse, mother, or father who is cooing, cleaning, and feeding it; and early mental growth involves shaping ‘infinite’ potentials of non-linguistic codes into finite social and cultural expressions.

Ray Birdwhistell, often called the founder of the study of kinesics (as he invented the phrase), wrote,

. . . insofar as I have been able to determine, just as there are no universal works which carry the same meaning the world over, there are no body motions, facial expression or gestures which provoke identical response the world over (Birdwhistell 1971, p. 34).

If we agree with Birdwhistell and others that kinetic, somatic meanings are ‘language-like’, that our propensity for expressions are shaped by cultural immediacy, this has many implications for our understanding, not only of learning, but of colonial history as well. For example, in greeting one another, the people of Loango clap their hands, while Polynesians stroke their own face with the other’s hand (Argyle 1975) It might not be enough to say there are cultural variations and diversity of sign, but a deeper and broader understanding of what we encounter and how we react to differences in the use of these modalities are not just ambiguities, but complex cultural ‘truths’, complex social processes. How these potentials for non-linguistic ritual and expression are employed by the intellectual architectures and discourses of social and cultural political power of the times are of critical interest to this study. In that light, Darwin has to be seen as a contradictory figure. On the one hand, he carries forward the submerged knowledge of the communicative body, but he does so in a hegemonic theory that makes claim to universality and biological determinism. One effect of this is that the social processes of mutuality and

intersubjectivity, the cooperative strategies centered on non-linguistic modes of knowing are obscured in favor of the new God–nature.

Sources of the Communicative Body

Chapter 6. Interfield 3: Part 3: Vignette: On Smiling

A smile can be used in a variety of ways, with a multitude of contextual interpretations. On the face of it, the smile can be seen as one means to create, as Noddings writes, “the many opportunities for pleasure and overt recognition of the connection between the development of desirable dispositions and happiness” (Noddings 2003, p. 246). The smile can also be used as a strategy in the course of a lesson, as we will see below, to indicate the teacher’s absence of pleasure or presence of pleasure with her students.

The awareness of non-linguistic communication in the classroom, particularly the way in which we comprehend values of caring and the sense of social cohesion, might enrich the possibilities of contemporary educational theory and practice. As we have begun to see from the historical record, interrelational values of the face, hands, and voice, all effective social attunements that form cooperative, social strategies. Spatial, kinetic, and, emotional modalities of non-linguistic communication, as documented in aesthetics, in letters, on stage, in the growing field of medicine, communicate an impressive array of interpretative signs: generosity, caring and loyalty, beauty, virtue, character, joy, these are knowledges and social values that this study has found bear relation to what Damasio calls ‘feeling body tones’. As we have seen from our historical work so far, our mimetic, episodic ‘self’ can be engaged by essentialist, cultural categories such as nation, state, gender, race, tribe, etc. These formulations of differences submerge another reality. The natures of social groups include the comprehension, caring, and loyalty as they are expressed through non-linguistic modalities. These modalities also link us to the playful one whose first self-creation was first built on eye-to-eye contact and sounds, both meaningless and loving, of the birthing room. These vestigial connectors in our network of non-linguistic interlocutions—which would include the neurological architectures that bridge the ‘feeling brain’ with the neo-cortex—are signs primarily presented by the face, the hands, and the intonation of voice. As classrooms are now culturally, educationally, and technologically

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diverse, this study considers the investigation of gesture, sign, and facial expression not as cultural products that reinforce difference, but as one way we might re-constitute social values and cooperative strategies that cross both cultural boundaries and individual difference. Let us consider the smile.

Background

During the course of this study, I have worked with teachers at various stages of their careers. As noted above, my original design called for comparing the non-linguistic modalities of a novice teacher with a master teacher. However, as I reviewed the data, I became interested not in comparative work, but in how each teacher worked individually, how they established a culture of gestural meanings based on their own practice. In this chapter, I consider Teacher B, whom I call a 'master teacher'. Teacher B is a heavily awarded teacher who has won national awards (Prime Minister Awards in 2003 and 2004). She has also been awarded numerous community, educational, and humanitarian awards. I do not seek here to claim that awards necessarily warrant consideration in scientific study. However, I spent hours talking with and filming Teacher B, whose early drama training and communication skills created the kind of exposure to cooperative learning environments that interested me for this study.

I came on Teacher B by a kind of accident. My son had befriended a young person whose mother was an art teacher who, in turn, worked with Teacher B. If the child is father to the man, this might be provided as evidence. Through my son's friendships, I met someone who would teach me a great deal about classroom practice. In particular, in viewing the tapes I made of Teacher B, I became quite interested in how she used the smile in the classroom.

As with this study's novice teacher, Teacher B works with middle grade students. She believes social competency and academic work require an "accepting classroom climate", one involving "a sense of teamwork and listening" (Fieldnotes February 22, 2006). In her twenty years of teaching, Teacher B has developed what she believes are effective teaching tools. These include portraying the teacher as the learner, performing certain roles in the classroom, and modeling the skills she is teaching. She also believes a student's sense of belonging creates an integrative framework in which cognitive work can be effective. At the time of this study, her

understandings of non-linguistic communication came from her theatrical training. She had not done any work in non-linguistic communication in school or in workshops with other teachers.

Over the last fifty years in western societies, what has become known as the ‘little science’ of nonverbal communication has begun to turn its gaze on the classroom environment.

Innumerable studies have focused on teacher expectations and student performance, while tending to ignore the emotional values and social contexts of body-thought which we find in our historical investigation. For instance, what affect a smile has on interpersonal learning and perception might be seen as a compelling and under-theorized question for the creation of social values—such as caring—in classroom practice (and teacher training). Yet, besides a smattering of clichés, such as ‘do not smile until Christmas’, no consideration of the smile in the classroom exists, is it possible to observe and define the body’s creation of social values in a classroom? Are these expressive spaces representational acts of consciousness? Does the habit of, say, a smile ever transpose itself out of what Marx would call ‘practical consciousness’ and reach the condition of understanding?

While there have been no contemporary studies on smiling in the classroom, other synchronic, empirical studies have focused on the development of the response in infants and children, and on the recognition of emotions in facial expression in adults ((Diamond 1974; Ekman 2003). As an emblem of these types of empirical studies, Lau (1982) predicted that individuals would like and give more positive evaluations to a smiling person than a non-smiling one. One hundred thirty-three Chinese college students in Hong Kong (sixty seven males and sixty six females) were allowed to rate a person based on attraction: unfriendly-friendly, unapproachable-approachable, unpleasant-pleasant, dark-bright and awful-nice. The question driving Lau’s research is: why a smile is able to increase one’s likeability? By and large, post-war research on facial expression in western societies has not focused on the elements of inner lives such as emotion or passion and how these create interrelational fields on which social values are constructed. In this case, I believe film does allow us to view how non-linguistic communication either expands or shrinks the social field around us.



Above: Teacher B smiles during the consequence phase of a lesson (Fieldnotes February 22, 2006).

Method

One of the goals of this study is to view the non-linguistic means by which we create social values in an interrelational, (social) context. By and large, a good deal of educational research views qualitative methods as the way in which we do interpretive research. Here, I do not mean to contradict the findings of many researchers in the field, but I want to suggest that a rigid view of scientific inquiry and research method might be an unnecessary limitation in some cases (Cronbach 1975). I want to suggest that filmic data allows us to visualize social fields in what might be a way to define interpersonal reasoning and effective teaching. In addition to the rich description and interpretive understandings, film can be a helpful interpretive tool as well. For example, in observing the film of Teacher B going through a lesson, reviewing the ways in which she communicated non-linguistically, I began to quantify her smiling gesture using the definitions of Brannigan and Humphries (Brannigan 1972) who distinguished three forms of smile: the closed smile, in which the mouth corners are drawn up and out while the teeth remain

covered; the upper smile, in which the mouth corners are drawn up and out, and the upper lip is raised, revealing some of the upper teeth while the lower teeth remain covered; and the broad smile, similar to the upper smile, in which both upper and lower teeth are exposed. I compared how Teacher B used the smile in what I call the expectation phase, when she gave the lesson, and the consequence phase, when she evaluated the student's work. In the film of her lesson, she used the smile eleven times more in the consequence phase than she did in the expectation phase.

| | Expectation Phase | Consequence Phase |
|--------------|-------------------|-------------------|
| Closed Smile | 1 | 4 |
| Upper Smile | | 3 |
| Broad Smile | | 5 |

Follow Up

In the post-exercise evaluation and discussion, Teacher B discussed possible reasons for the disparity between her limited uses of the smile in the expectation phase as compared with the consequence phase. For example, she cited her training in drama as one possible source for her ability to communicate a variety of messages through the smile:

Drama is about enjoyment. . . Characterization, the study of how voice and intonation, the use of silence, all these contributed to my sense of the classroom. My breath work, how to build character, all of that helped. I studied drama not to be an actor but always had teaching as my goal . . . I smile to radiate enthusiasm (Fieldnotes February 22, 2006)

She considered her drama instruction as having contributed to her understanding of how the face and hands work. "In theatre training, we learned that the eyes follow the hands". She also believes that through experience she developed ideas about how a teacher plays a role. "In class, I consider that I have four roles to play. I play the mother, the learner, the teacher, and the matriarch. All of these roles have different tones in voice, different movements, different goals. I hate the matriarch role most of all" (Fieldnotes February 22, 2006).

She views her knowledge of the eyes, hands, voice, and personas in the class as tools, and may use them consciously.

When I began it was all about survival. Engagement was about lessons and communicating the lesson plan. If I was able to get through to kids, it happened in short bursts. Over time, my ego is not on the line as much. The concept of a kid challenging me or making me lose control is not a threat. I am more relaxed now about making mistakes, admitting mistakes. I'm focused a lot more on my needs as opposed to needs of the kids.

She suggested that as a teacher becomes more experienced, "you learn a broader understanding of human nature. Kids need to feel secure to learn. I have learned that that security comes more from my performance than from the lesson." As to teacher training she said,

Teacher training is an absolute joke. For the past 15 or 20 years, everything is how technology is going to be central to learning. Well, that is an interesting idea. But what does that have to do with teaching? Teaching is a two way mirror. You could say that we haven't even understood that. You see yourself, you see the kids, you see parents behind the kids. We don't prepare people properly, and lose people who would be competent performers. If you're honest, teaching is a performance. We prepare poorly and people go out and get crucified in the first 12 months and competent performers leave the field (Fieldnotes February 22, 2006).



Above: Blended expressions: The closed smile with raised eyebrows; “The Eyes Follow the Hands” (Fieldnotes February 22, 2006).

Conclusion

While the higher order of human development and cognition are, by and large, ferried by language and the linguistic ordering of thought, certain social and emotional values are conveyed by physical movement and non-linguistic messaging. The way in which these values and messages create social fields for learning to happen can be understood with clarity by focusing on non-linguistic, classroom communication. What is more, by focusing on the society of a classroom, we see that a smile has interpretive meanings only in the context of how and when it is used. For example, different types of smiles range from broad acceptance of a student’s presence to a tentative expressive of doubt and aversion. The way in which the social context contributes to social meanings and attitudes adds to our understanding of non-linguistic experience and excellent classroom practice. In this case, Teacher B’s skill with facial expression can be said to involve not only experience, but training in the dramatic arts as well. The meaning of the smile is understood as a process within the social context of its use.

Sources of the Communicative Body

Chapter 6. Interfield 3: Part 4: How Meanings Change

Relationship with the future, the presence of the future in the present, seems . . . accomplished in the face-to-face with the Other. The situation of the face-to-face would be the very accomplishment of time; the encroachment of the present on the future is not the feat of the subject alone, but the intersubjective relationship. The condition of time lies in the relationship between humans, or in history (Levinas and Hand 1989, p. 45).

The ‘local truths’ of classroom gesture appear to contradict the findings in history, and this requires us to explore whether or not what we see in local truths can be said to be ‘not false’. By the end of the 19th century, historical physiognomy defined by Le Brun, Lavater, Bell, Duchenne, and Darwin sought to define a universal and immutable (emotional) ‘language’ within the musculature of the face and hands. Two considerations arise from this tension between the local, social performance of gesture in our observations and the historical ‘science’ which seeks to explain the body as signing through ‘universals’:

1) If it is possible to show that gestural ‘language’ changes, can we leave behind claims to universality and immutability within non-linguistic channels and move to greater understanding of social contexts and allow for local truths? This is not trivial, as a good deal of contemporary sciences and researchers in nonverbal communication (NVC) continue to strive for a definition of a human nature marked by universal expression.

2) At the same time, the hands, face, posture and intonation of voice also are indispensable to the construction of social fields in which ‘the effects of innate sympathy’ might still be comprehended. In other words, sympathy might not be an innate and universal human state. It might also arise out of the hermeneutics of living bodies. As Madeleine Grumet has written about the exchange of the look between mother and infant, “. . . there will be other moments as their histories are intertwined through time when they again exchange the look of generation

that transfers and transforms the possibilities of personhood from one being to another” (Grumet 1988, p. 98). The recreation of the confirming look that passes between the newborn infant and its mother, the look which precedes all nature and culture, is, in one way, the moment in which gesture, caring, and learning are conjoined. How do we acknowledge the prior values of non-linguistic communication while moving past the bias at work in the scientific claims to universality?

In the medieval episteme, God was creator and originator of a world of purposeful meaning, and this can be evidenced by gestures and faces in the model books, paintings, and frescoes of that era. On the contrary, during the 19th century gesture begins to reflect the understanding that the world originates through evolutionary processes and all knowledge is derived from the natural senses. This shift reveals how the meanings of gestures change. Certain canonical hand gestures and positions convey religious and pious states in pattern books and frescoes in the 13th and 14th centuries. By the 19th century, gesture language is an expression of ‘the cult of nature’ in Wundt, Mallery, and Clark. Here, we can begin to make the argument that gestural meanings are not universal, but figures of thought related to the institutional power/knowledge configurations and a way of creating and linking an individual subjectivity to social and political structures of a particular historical moment are.

In the popular version of historical transition, the emergence of the modern world from the Roman Latinate order has been seen to involve the powerful role of print medias and text’s role in ushering in a new mode of non-theological, natural, humanist thought. As we have seen, static, monolingual cultures defined by print might be said to have consolidated certain cultural abstractions such as race, nation, gender, nature, science, childhood, etc. These abstractions allowed for the ‘bodies of evidence’ to gather and provide evidence for the transformation of social and intellectual order.



Above, circa 1398: A detail from a model book of Bergamo, *Biblioteca Civica* (Scheller 1963, p. 142)

This historical view provides us with vital information. For instance, what does not seem to be at issue is that there is the possibility of taxonomy of gesture. However, the nature of that taxonomy has gone from seeing gestures as ‘words visible’ or ‘language-like’ to being more embodied expressions and complex interactions that define organic layers of cognition and communication. In Medieval societies,

the development of figuration arts, the diversification of rituals, the forms of public speech, the scholastic explanations of religious gestures and the new patterns of behaviors inspired by late medieval mysticism drew the question of gestures to the very center of ideological debate (Schmitt 1991, p. 69).

At the center of this debate is whether gesture is ‘language like’ or is engaged with other domains of perception and feeling. Augustine followed Aristotle, Quintilian, and Cicero in commenting on the nature of *verba visibilia*:

When we nod, we give a sign just to the eyes of the person whom we want, by means of that sign, to make aware of our wishes. Certain movements of the hands signify a great deal. Actors, by the movement of all their limbs, give certain sign to the cognoscenti and, as it were, converse with the spectators' eyes . . . All these things are, to coin a phrase, visible words (Augustine 1997, p. 59)

As we will see, the Augustine perception of gesture as visible words will, in the 19th century, become gesture studies in which gesture is seen as a 'universal language'; today researchers extend work on gesture beyond the 'categorical features of language' to include a taxonomy of embodied expression of somatic channels not easily compared to or defined by words (McNeill 1992; Roth 2001; Kendon 2004). The point is that ways of seeing and ways of knowing are historically specific (Berger 1972; Jordanova 1999). Each culture can interpret signs in its own way. This chapter proposes that we understand gesture as mythic features that reflect not only the complexity of social interactions, as reflections of political, ideological orders, and as somatic channels by which these social and cultural meanings are understood and conveyed.

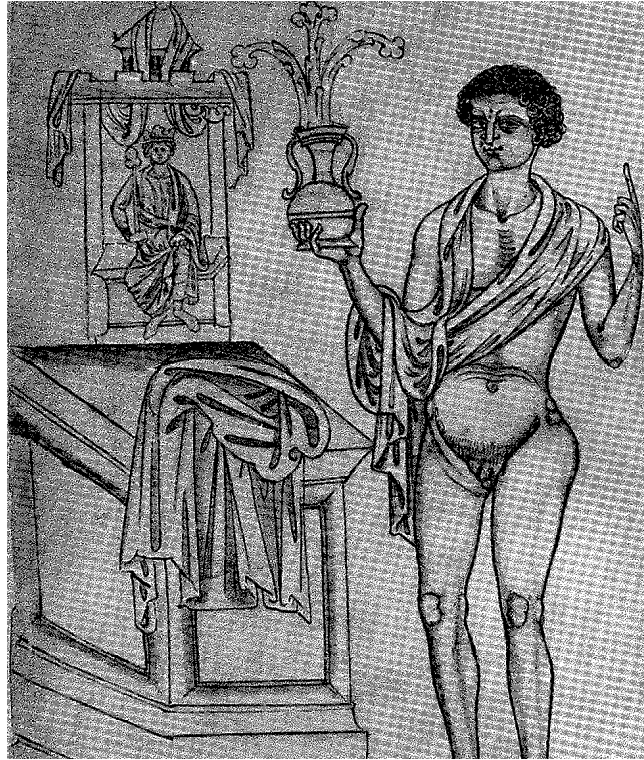


Above: How a man touches a woman. Image from pattern or model book, *Central Italy*, 1350-1375 (Scheller 1963, p.138).

In relation to cultural history, the weakness of literacy in the Middle Ages provides us with unique evidence: the forms and meanings of feudal society can be seen as expressed by gestures more than written records (Schmitt 1991). This has brought about the moniker of the Middle Ages as a ‘culture of gestures’, ‘*une civilization du geste*’. The evidence comes to us from frescoes, pattern books, and handwritten manuscripts (themselves a type of gesture). In all, we come on an implication often not explored in contemporary research on nonverbal signs, what I will refer to here as mythic gesture, gestures meant to ritualize ideology, to brand, to link the “invisible inside and a visible outside . . . by a dynamic relationship” (Schmitt 1991, p. 60). For example, in medieval art circles, certain gestures and facial expressions were ‘standardized’ by what are called model books or pattern books. These were books developed by artists for artists to convey certain canonical messages and postures. In medieval societies, pattern books or model books often provided an ‘accurate’ way of depicting the face and hands. Again, the historical evidence is scant, but pattern books might be seen as providing, as the above model book would indicate, an accuracy way as replicating and reiterating the myths of the social and political order.

The medieval method of illustrating man’s relations with his fellow-men consisted of a symbolic language of gesture couched in specific formulas . . . the action of the hands is so important there that the figures are sometimes provided with four or even six arms to indicate the transactions concerned (Scheller 1963, p. 32).

A message in need of excessive repetition might be said to go beyond mere metaphoric meaning to a vital, necessary status as a cultural symbol that might be called myth. Since myth has been seen as a means of deep explanation or symbolic resonance for preliterate cultures (Berger 1972; Eagleton, Jameson et al. 1990; Jordanova 1999), the suggestion that gestures can perform mythic tasks may not be a stretch. And while we might not be able to make too many generalizations about the meanings of gestures and facial expression as presented by pattern and model books, the knowledge of how visual figures of thought were disseminated may be enough to make this point: pattern books and frescoes provided the stylistic habits and technique to present mythic postures that explain the origins of the world, including the pieta, the saint, ‘supplication’, ‘flagellation’, etc. These patterns might be said to reiterate how visual media works in its time. The circulation and repetition of idealized images with particular meanings in the positions of hands and the expressions on faces indicates the nonverbal signs are critical to social instructions with regard to the ‘worldview’ of the time in which the signs appear.



Above: Detail from the sketchbooks of Villard de Honnecourt: (Villard and Bowie 1959, Plate XXII)

The most heavily researched of these medieval pattern books is the sketchbook of Villard de Honnecourt; we know very little about Villard, though it is estimated that he was active between 1225 and 1250. Villard might have been instrumental in building a number of churches and also lived in Hungary, by his own account, “for a long time” (Bowie 1959, p. 4). Villard’s sketchbook provides a number of what might be called canonical, mythic positions of the hand, what Kendon would call isokines (Kendon 2004). These are symbolic, gestural, figures of thought meant to convey ‘utterances’, with co-occurring meanings between the hands and culture, in this case, a theological one. Vygotsky defined the role of these metaphoric and iconic isokines as links between the social and the psychological (Vygotsky 1978). In both Giotto and the model books, the few female figures available are bowed and her hands downward pointing. This is also the case for some men, but it is the male figure who most often appears with hands

as mediators of action – placed on the head, or hands pointing, indicating; these traditional forms may not offer enough evidence to build on, but it does corroborate other findings in other arts and in narrative as well: traditional schemas show, as in Goffman (Goffman 1979), the female in a role of supplication, literally beneath the male, where the process of individualization on the human body and face corresponds to social abstracts such as status, power, the male as transmitter of the formal relationship to awe, reverence, etc.



Above: Detail from the sketchbooks of Villard de Honnecourt (Villard and Bowie 1959, plate XXI)

The above is an image from the sketchbooks of Villard. Working roughly one hundred years later, Giotto, one of the more celebrated painters of his time, will also employ the above isokine in the frescoes and paintings that structure the messages of the church, again, at a time when illiteracy would have characterized the general public. Here is an image from Giotto frescos in the Scrovegni Chapel in Padua:



Detail from Giotto, Christ Blessing, Padua, Scrovegni Chapel, (Gnudi 1959, Sketch 123)

There is some suggestion that iconic gestures do not convey any information outside of what is conveyed by speech, but iconic, compositional features in painting and digital screens might indicate a domain of understanding that is entirely devoid of semantic associations, being a visual message to begin with. This would suggest that within visual culture, there is the possibility of iconic gestures, as visually compositional components that do not emulate semantic meanings. As witnessed by the use of the above isokine, visual culture may be able to create realms wherein the gestural has direct meanings as ‘units of discourse’, metaphoric qualities, but are packaging information “never available to perception” (Roth 2001, p. 383). This packaged information can be seen to relate to the abstractions of cultural product.

The conception of embodied understanding—beyond the co-occurring and metaphoric—as visual, somatic, kinesthetic channels—aside, beside, prior to semantic channels of learning—has been excellently explored by Moshe Barasch’s study of Giotto (126?–1337). The use of gesture in

Giotto's paintings and frescoes can be viewed as to how hand gestures reinforced the rituals and meanings of rituals in Western Christianity (Barasch 1987). How these gestures are used by a church-supported artist such as Giotto reveals a good deal of information to us on how gesture might be seen to transcend cognitive systems, embody codes, and resonances used in the service of theological, political, and aesthetic traditions; that is, changeable codes employing visual, somatic channels in solidifying the moral order of a culture's worldview. To suggest, as many contemporary studies do, that gesture and facial expression are 'limited' to universal and immutable meanings, determined by biology, would appear to ignore the fact that somatic channels have long been employed by social and cultural institutions. We do not need to remind everyone that by the time a young child today is literate, they have also been exposed to corporate logos, representations of murder, not-so-subtle sexual messages regarding gender and gender-bending. In short, somatic channels might be said to be actively involved in the formation of social, cultural, and political identity such that their place in learning and teaching sciences requires an awareness of these many externalized, complex, and powerful cultural forces at work on body-thought.

In his frescoes Giotto sought to communicate, among other liturgical and abstract properties, awe, prayer, submission, expulsion, piety, etc. These metaphorical gestures of abstract concepts linked the viewer with the messages of the church, in an age of mass illiteracy, in a way that was accessible to artist, priest, and layperson alike—as image. The gestures give the viewing consciousness concrete meaning, bringing, say, the 'states of reverie' into the public consciousness through the hand alone, without the messiness of words or written dogma, without anyone having to know Latin grammar. What Berger would call the 'nature of the antagonism' in Giotto's work would be a rendering of the Christian inner life as public, gestural displays with the aid of discourse (Berger 1972). Thus, visual discourse within Giotto's frescoes iterate the human subject as in relation to God. The ideal gesture, a reflection of this relationship in which the subjects stands not in social relationships, but in theological tensions of either submission, listening, reverence, or judgment. These isokines are not limited to Giotto, but were extensive visual codes employed by artists throughout the boundaries in which the isokines had consolidated meanings. Compare these two images, one from Villard and one from Giotto:



Above: Detail from the sketchbooks of Villard de Honnecourt (Villard and Bowie 1959, Plate LVIII).



Above: Detail from Giotto, Man in the Street Pays Homage to St. Francis, Assisi, Upper Basilica (Giotto 1969, plate IV)

Compare the right hand of the man wearing a chalmys and skullcap of the image from Villard with the right hand of Giotto's 'listener' in the image below. The positions of the hands are downward pointing, palm open, a gesture that might be said to be, in this case, a repetition of the meaning of listening, submission, passiveness on the part of the figure. The right hands of both are 'figures of thought' with a variety of implications, perhaps none easily translated as a 'unit of discourse'. They stand in relation to the facial expression, in relation (in Giotto) to the 'man of power' beside him. We might suggest that the repetition of certain gestural postures, in settings where they convey metaphorical meanings is a perceptive domain in which the visual codes of a culture have been conveyed in the past. In the above, the hands might be said to be, in many ways, involved with the history of the Roman Empire, the Holy Roman Empire, and colonization of Europe by Latin and church dogma. 'Latin Christianity' had the wealth and power to employ and sponsor many artists, who in turn codified meanings according to theological vocabularies: images with meanings related to particular church teachings. Here we might see how a 'research community', such as a church-sponsored artist like Giotto (or by comparison a state-sponsored artist like Le Brun), develop methods for representing non-linguistic meanings within a closed system: Giotto applies the code and the truth that 'gestures

communicate and animate thought and speech' becomes re-combined and re-elaborated by a methodology of research in which gestures communicate and animate thought and speech by intimating theological principles. Barasch writes,

Many of Giotto's speaking gestures, even if they ultimately originate in classical sources, were not directly developed from an encounter with works of Roman art. His immediate sources, one ventures to say, were liturgical experience itself, and the many contemporary, or near contemporary, representations of the blessing, or – more nearly – the speaking, Christ or saint. The affinity to classical conceptions of speech, so far as they exist in his work, derives from the artist's own surroundings, sensed and felt, rather than from ancient sources (Barasch 1987, p. 39).

The ritualized meanings of gesture in the liturgical and aesthetic configurations are depictions of the hand not easily grouped according to 'universals'. The depictions would appear to be external to McNeill's taxonomy. Yes, they are metaphors for certain types of synchronic communications, such as submission (bound hands), awe (folded arms, subservient posture) prayer (hands clasped or arms outspread), and protection (the hand above the head). They also reiterate the relationships of power between the social and cultural order and the (illiterate) viewer. Giotto's varied readings of how the hands connote meanings in paintings is a good indication that this semiotics of visual codes can reach a stage of becoming highly elaborated and widespread (Halliday 1978).



18 Giotto, *The Glory of St Francis*, Assisi, Church of St Francis, Upper Church

Above: The Glory of St. Francis of Assisi. William R. Cook estimates that 20,000 public images of St. Francis of Assisi were created in Italy in less than a hundred year span in the 13th century (Cook 2004).

Gesture and Mind in the 19th Century:

Meanings established by the theological systems of the Middle Ages have not disappeared. By the mid to late 19th century, the debate between the radical facts presented by natural science was pronounced and the communicative values of human body were at the center of these changes (Jordanova 1995; Jordanova 1999). In particular, Wilhelm Wundt will begin the discussion of gesture (including facial expressions) as a form of human communication that precedes language and is part of the natural evolution of life toward higher, more complex organisms. Wundt extends the interpretation of non-linguistic modalities to begin to fit the Darwinian worldview: Linguistic language evolves from an earlier form of gesture. The face is a canvas on which we can read evolution from simpler to more complex forms of expressions.

The hand reveals the inner life of the free and natural individual. In this way gesture again assumes a mythic role of explaining the origins and orders of the world (Wundt 1911).

Adam Kendon links Wundt with four other important theorists on gesture in the 19th century: Andrea de Jorio's treatise on Neapolitan gesture (1832), Edward Tylor (1865) and Garrick Mallery's work on gesture among the Plains Indians of North American (1880) (Kendon 2004). Wundt's work in particular allows us to see how the transition from the power discourses of Latin Christianity, as represented by gesture in Giotto and medieval pattern books, to the scientific discourses of the 19th century reveal how the truths of nonverbal communication can work in the service of the mythic explanations of the social orders of the day. Where Giotto had painted 'the speaking hand' with blessed meanings in the service of the orders of Christianity, Wundt reiterates gestural meaning in the service of evolution and the natural order inherited from natural sciences.

Gesture can be shown to be attentional and intentional expressions that represent an 'original and universal language' that precedes spoken language (Wundt 1973).

If the etymology of speech must content itself with the investigation of original forms it has to accept them as historically given and not as derived. For this reason then they remain inexplicable. The 'etymology' of a gesture on the other hands is indicated when its psychological meanings and its connection with the general principles of expressive movement is recognized. So the problem begins right where the etymology of spoken languages ends. . . . To some extent the gesture always seem to remain on the level of its original condition and what we observe in traces of historical change tends in this connection to establish the character of gestural communication as a language. One might go so far as to say that the concept of original language which is only a hypothetical peripheral question in speech investigations becomes an observable reality in gesture (Wundt 1973, p. 32)

By trade, Wundt (1832-1920) was an inductive psychologist who began to consider experience as a phenomenon in its own right. "He sought to describe the contents of experience in terms of the basic elements of sensation and feeling and in terms of an active attentional process he terms apperceptions" (Kendon 2004, p. 57). For our purposes here his 'The Language of Gestures' (1973), the second chapter of his encyclopedic *Volkerpsychologie*, is an oft cited work and rich treatise in which Wundt argues that vestigial traces of gesture predates language. For Wundt, emotions are only a part of the story, and involuntary symptoms. More importantly, the

evolution of language can be explained in part by the functions of gesture as a primitive language observed in three comparative systems:

1. Gestural communication among deaf mutes
2. Gestural communication and primitive peoples
3. Inherited gestures among modern peoples.

Wundt and Mallery's claims for a gestural language that precedes spoken language are curious. It is certainly intriguing to note that primates are very poor vocalisers (Savage-Rumbaugh and Lewin 1994; De Waal 1997). As we know, the human ability for the wide range of sounds we enjoy, has to wait for mutations in the larynx, and it is very difficult for us to surmise when this change took place. Larynx is tissue, and tissue does not leave a fossil imprint (Dawkins 1999). In addition, one of the enduring myths of human civilization originally based in biblical literature, is that the human equals speech; for some, it is only through words that we form and express thought. Reason, cognition, decision-making, judgment, all the higher forms of thought, the very concepts of human have long been associated with alphabetic language. In the beginning was the word and the word became flesh, not the other way around. However, Wundt and Garrick Mallery, who also worked in the late 19th century (Mallery 1972) make it possible, at a fairly early stage in research into the non-linguistic, to posit that Indian hand language and the sign language of deaf mutes could very well resemble a means of communication that predates spoken language. In any case, the late 19th century finds the acknowledgement that there are many ways of communicating and of learning, the meaning of the body is at the center of overturning of church doctrine in favour of the cult of nature. Today we might not find it surprising, but coming when it did, the following is a radical possibility: "Mental images or representations can be formed without any connection with sound, and may serve for thought, though not for expression" (Mallery 1972, p. 274)

In effect, Wundt and Mallery enlarge linguistic theory in attempting to explain the relationship between gesture and the objective, qualitative, and conditional concepts of thought itself. Gestural language models spoken language in its 'universality', but also in its ability to communicate without misunderstanding. It accomplishes this in part because of its simplicity: Gesture is temporally flat, it represents all in a present tense (immediacy). The proverbial use of the present tense would have a tendency to make meaning less gray. The non-ambiguity of

gesture in time – an eternal present--makes gestural language, for Wundt, an original form that reveals the development of cognition itself in a pure form. The metaconcept is that thought is not a spiritual medium, not an ideal expression, but an evolved and natural system of adaptation to experience:

This law of origin leads by necessity to the presupposition that the primary cause of natural gestures does not lie in the motivation to communicate a concept, but in the expression of an emotion. Gestures are first and foremost affective expressions. . . . Only secondarily, insofar as every affect contains strong emotional concepts, does the gesture become a conceptual expression (Wundt 1973, p. 146).

For a 19th century naturalist, no matter how much gesture is rearranged by the temporal constraints of a culture, gestural communication is the layer of epistemological development on which language sits.

Every stage of this development is already contained in the preceding and is, at the same time, a new phenomenon. Thus, the responsive gesture is a powerful step forward in comparison to mere imitation, and yet, as we may assume, it originated without any outside interference but purely through the intensification of already operative, elementary psychic conditions. . . . In this natural and purposeful progression, gestural communication supplies a model example for the development of language, distinguished by the simplicity and clarity of its phenomena (Wundt 1973, p. 149).

Wundt (1973), Kendon (2004), and Donald (2001) make a case for gestural language being a stage of development in the evolution of human mind and, by extension, a cooperative strategies within human cultures. As spoken language required a unique positioning of the larynx in the hominid line, it is very possible that our prehistory includes a time when our expanding brain capacity allowed for a ‘language’ of gestures (or clicks) and this would have established the expressive skills and symbolic bonds that allowed the line to establish group identity, transfer and teach skills, and establish networks through which custom and conventions were passed along (Donald 2001). Consider, for example, the time period 125,000 KA to 50,000 KA. The fossil record from this time shows an enlarging brain of a bi-pedal primate. There are camps marked by fireplaces, and other conventions such as tool use and woven beds, and yet there is no clear record of spoken language or oral or symbolic culture. There are no or very few cave markings or carved symbols; and, because it is tissue, the larynx leaves no footprints in time. At present, we just have no way of knowing exactly how communication among the hominid line was organised through this time period. When we first have evidence of a shared spoken

language, because we have examples of shared, imagistic symbols, it begins in the time period 70,000 KA to 50,000 KA, in Africa and Euro-Asia (Dawkins 1999; Dawkins and Menon 2003). It is possible that for 30 or 40 millennia, homosapiens have established a social life divergent from the episodic cultures of the other primate lines through the use of a click language or gestural language. And while this remains speculative, there may be vestigial traces within the gestural language itself (Wundt 1973; Savage-Rumbaugh and Lewin 1994). These shared, rhetorical structures of sociality, expressed in gestural modalities, might be seen as powerful implications for how non-linguistic communication creates the sense of social cohesion, attunement, sanctioning and care, to name just a few of the needs expressed by the group.

While we make note of the certainty of Wundt, Mallery, and Clark's convictions and conclusions about gestural communication and the origin of language as a process of evolution, we also want to note that as the 19th century closed, the work of Bell and Duchenne and Darwin and Wundt and Clark suffered from a slow withdrawal of interest. "Questions about the origin of language also fell in disrepute, at least among linguists, and this also led to a lack of interest in gesture" (Kendon 2004, p. 61). Between 1900 and 1952, when Birdwhistell and others revive the interest in Nonverbal Communication, only three notable books appear on the subject of gesture: *The Language of Gesture* by MacDonald Critchley (1939), David Efron's *Gesture and Environment* (1941) and Charlotte Wolff's *Psychology of Gesture* (1945). The point here is that we can offer the above as evidence that the way in which gestures are employed by the social and cultural and political institutions of their times indicates that the search for universal, cross-cultural meanings might be myopic. Instead, as Merleau-Ponty has suggested, "the body is to be compared, not to a certain bodily bearing, but rather to a work of art. . . . It is the nexus of living meanings" (Merleau-Ponty 1962, pp. 174, 175). Reading the body as lived meanings, in observable and essential ways, creates the possibility of witnessing the contours of sociality as non-linguistic spaces, outside modes of narrativity. Investigating how, if, and why nonverbal signs create spatial, non-linear, attitudinal dimensions of space might lead to knowledge about how certain deep, social patterns of meaning—those involving, say, caring, attention, and the sense of belonging—originate and are sustained. Linking history to our own histories, we might begin to integrate the communicative body from out of the authoritative position of church and science to recognition of what Grumet and Julia Kristeva call 'the first language'—the language of touch and look, which is the language that first carried the possibility of personhood and self-creation.

Sources of the Communicative Body

Chapter 6. Interfield 3: Part 6: The Body Electric

What is this then? (Whitman 1855, 1955, p. 101)

Before we leave our Victorian and Edwardian cousins, a curious thing occurs, an oddity that necessitates a bit of a tangential move here on our journey. As much as theorists can underscore the fallacies at work in Lavater's physiognomy and the 'racial thinking' that underscores scientific physiognomy, as much as we document that interpretations of gesture change in relation to political structures and power-knowledge, we also have to acknowledge that the 'fallacies' of beauty, virtue, and character being associated with and defined along racial lines and moral coding come to dominate European history for two centuries and culminates in human histories' most telling nightmare—The Third Reich. The history of the communicative body generates meanings surrounding God, gender, race, nature. These categorical meanings, founded on differences, can be seen as at the nexus of the rise of nationalism, colonialism, and the 'European world order'. In other words, the inability of science to recognize individual difference can be defined as a fallacy, but also becomes a pressing concern for our study: Can we escape the 'primitivism' at work in the social values communicated by the body? Can the communicative body be seen as possessing values that extend beyond difference?

The danger here is not only the 'racial thinking' of a distant past. Numerous contemporary educationalist studies promote a similar type of primitivism by proving how nonverbal communication involves teacher attractiveness, gender, and likeability and warmth and are or are not related to high evaluations and 'positive learning environments'. Many of these studies do so without exploring the historical and social contexts in which categories such as beauty and ethnicity are involved (Goffman 1979; Feldman 1992; Pattan 1999). This inability of educational theory and the teaching arts and sciences to effectively deal with the contradictions and conundrums of non-linguistic communication and the context of social values of body-

thought is not a staggering surprise. Many people have held up the mythologizing phrase ‘good teacher’ as a way of explaining how an effective communicator works. This impoverished vocabulary has provided us with a way of both mythologizing and infantilizing the teacher (Pinar 2000). We are loathe to address the ‘feelings’ generated by the categories and categorical memories of ethnicity, gender, and race. And from the perspective of our everyday lives and task and workplaces, we widely harbor assumptions that another will intrinsically understand, say, a thumb-is-up sign. When cultural incompatibility crosses our non-linguistic coding and decoding processes, often times it is assigned a temporal value such as ‘race, sex, and/or class’ incompatibility. One of the key historical moments in our journey toward understanding of the communicative body beyond these narrow definitions of race and ethnicity, comes, interestingly enough, in the same years as Darwin is compiling his theory of natural selection. Here, this investigation involves a bit of an archeology of myself, a bit of self-discovery.

It happened a day I was in the library at the University of Melbourne reading Miles Patterson’s excellent work on functional theory of nonverbal communication (Patterson 1983). I was trying to make sense of how Darwinian science had effectively set the conceptual frameworks of body-thought into the 20th century. As we have noted, a fair bit of study of non-linguistic modalities continues to strive for ‘holy grails’ that explain everything all in one go. And I had taken a break and wandered over to the 800 section, the poetry section, a place where many a dreamer has gotten lost. I again plucked Whitman down from the shelf and found myself staring into my present from my past.

As I returned to Whitman that afternoon in the library, in the hope of taking a break, there it was, a new orientation to history changes history. In tracing the thread of the communicative body through the Renaissance and past the Enlightenment, I received a curious result. The tradition itself was transforming. I began to see that history itself was not a fixed mark, but changed as our views and measuring devices for history changed. If metaphysics and the linguistic bias still define our classrooms, in aesthetics, where the communicative body has been a subject since Le Brun, metaphysics has already been reversed. In Whitman the body blooms as image and incantation, as the source of freedom and democracy, as knowledge beyond syntax and prosody, beyond gender, race, and heterosexual bias.

An historical synchrony occurred when considering Whitman in relation to Darwin and our historical narrative about the communicative body. Whitman was taking the notes for *Leaves of Grass* 1838–1855, roughly the same years in which Darwin scribbled his notes for the theory of natural selection. Darwin will publish in 1858, while Whitman publishes the first of many volumes of *Leaves of Grass* three years before, in the watershed year of 1855, which also saw Thoreau's *Walden* into print. We do have to keep in mind that Whitman spent the last twenty years of his life rewriting and revising that first yawp of his poetry into a political tome. In other words, he re-wrote his initial mountain of musical details into a poetry that corresponded to the politics of his time: Lincoln's faith in the American union, as well as Feminism and the Free Soil Movements. The tension between the rhetorical heights of his revisions and the detail of his original notes is what makes his poetry thrilling. Between the mythic and the quotidian, we find a poetry gently, with great respect, using the vocabulary of his time to usher in a new way of seeing human life: In "I Sing the Body Electric", Whitman sought to elevate the body into the realm of politics, to see motion as intelligence, to sing the flesh's desire into an expression of divinity. It is a new ontological vision of an organic wholeness, freed from the shadow world of metaphysics:

The love of the body of man or woman balks account,
The body itself balks account
That of the male is perfect, and that of the female is perfect (Whitman 1975/1979, p. 128).

Having grown up in the area where Whitman is from, I do find some personal correspondences between the poems, the idea of this study, and the land itself. Walt Whitman was born in West Hills, Huntington, Long Island, in 1819 and I can only imagine what the grasslands and farms would have looked like then, wrapped around the fingers of salty oyster bays that reach in from the Long Island Sound. This would have been then some of the best fishing banks in the world for shell fish and cod. Not content with paradise, from early on, Whitman's life took on the reality of traveling, of moving.

Starting from fish-shape Paumanok where I was born
Well-begotten, and raised by a perfect mother. . . .

Solitary, singing in the West, I strike up for a New World (Whitman 1975/1979, p. 50).

Whitman joined the Indians in calling Long Island Paumonak “Fish Shape”; from the air and on maps, Long Island resembles a giant, brown, headless cod; it is land you have to know to move through with ease. The coves and cut offs had provided shelter for gun runners during the revolution and later rum runners during a revolution of another sort. The combination of whalers and fishermen schooled Whitman early in the life of working men, close to nature, and the separateness born in them by a life at sea. The sea would remain a haunt of his, in both poetic themes and his walking. Ever an auto-impresario, he writes, “I loved, after bathing, to race up and down the hard sand, and declaim Homer or Shakespeare to the surf and sea-gulls by the hour” (*Autobiographia*, 23-24).

How much of Homer or Shakespeare he would have known at the age of 13 or 15 is debatable. He had finished his formal schooling at 11 . . . or 13 . . . depending on which year you spoke to him. A born dreamer, Whitman would have a “portfolio career” and, in this way, he followed his father, who had ignored the hard call to farming, and became a carpenter, drawn by the Quaker urges for craftsmanship. Today, the home his father built is difficult to find, surrounded as it is by the sprawl of late American capitalism, and shadowed as it is by the enormous, gold-gilded shopping mall named after him. And Brooklyn, where the family had a home off the farm, remains a place where so many generations of American families have put someone through on their way to the dream of landing. It is hard to imagine a Brooklyn with farms and fishing piers, but that is the place where Whitman met the “million people” that make up *Leaves of Grass*. Between 1838 and 1855, Whitman wrote down snippets of idiom, in talk and observations, as he taught school and traveled the shoreline. In those snippets, the scribbling of a loafer, Whitman transformed himself from a newspaper man and erstwhile school teacher to a poet, a transformation that has come in for some debate.

It is hard to imagine how Whitman was able to craft a poetry of joy and political enlightenment that still sings to us. In our world, everything is caught on videotape, and we are given to questionnaires as to our sexual practices. Our privacy is stripped from us daily. It may seem strange that Whitman’s transformation from a loafer along the shorelines and piers to a great poet is not “caught on tape”. Was it the libratory revelation of coming out as a homosexual? Did

his readings of the outpouring of Emerson bring his mind to a singing clarity? Whitman himself claimed to be an ordinary man, and his poetry the idiomatic music of ordinary Americans, but this sort of self-effacement does not explain the poetry, which changed everything that came after it. And it took some un-ordinary courage as well. *Leaves of Grass*, while being hailed by Emerson as a book of great joy, was also called a “mass of stupid filth”, “disregarding all the politeness and decencies of life”, full of “disgust and detestation” One review ends with the Latin quote for “That horrible sin that should not be named among Christians”(Greenspan 2005, p. 56) So while Whitman himself may have considered his poetry representing Americans, many of the critics of his day disagreed. If it was ordinary to be bi-sexual and writing in a form never seen before, if it was ordinary to plead for the freedom of slaves and to elevate the occupation of ‘mother’ to the highest form of work, then Whitman was ordinary.

As he prepared his first version of *Leaves of Grass*, Whitman became a teacher in both Brooklyn and Long Island. And there are contrary accounts as to why Whitman left the teaching profession. The “mainstream’ version is that he found his students dull, and he could not inspire them. Another story has it that Whitman had a teaching job in Southold, east on Long Island, that he boarded at the schoolmasters house, sharing his room and bed with other males. Whitman had expressed his sexuality and run afoul of a local preacher. The preacher organised a form of a lynching party, and Whitman had been tarred and feathered and literally run out of town. While the facts of this story have grown dim with time, and only recently been brought to light by David Reynolds in 1995, this story lends evidence to a number of themes in Whitman’s life: His sexuality was a source of joy, pain, and confusion. Though his poetry praised both the male and female body, and at times is overtly homoerotic, particularly Calamus, Whitman would at times deny his obvious affection for his male friends. His long term lover affair with Peter Doyle, the railway man, would be the central, adult relationship of his life, though Whitman would falsely brag, to one of his admirers, that he had six illegitimate children from a trip to New Orleans. In reality, Whitman’s poetry recounts a relationship with a man in New Orleans from that same trip, and no credence has ever been lent to the brag about six children. The picture we get is that he did not feel at ease announcing his sexuality in person, but it was clear from the poetry: underlying his progressive politics, his embracing reform movements, was a deeper urge to announce the ‘perfection’ of bi-sexual desire. He is using the Quaker doctrine of “inner light” and divine voices within to include the practices of sexual love.

Resolv'd to sing no songs today but those of manly attachments,
Projecting them along that substantial life,
Bequeathing hence types of athletic love,
Afternoon this delicious Ninth-month in my forty first year,
I proceed for all who are and have been young men,
To tell the secret of my nights and days
To celebrate the need of comrades (Whitman 1975/1979, p. 146).

Whether for dull school children or a crime of hatred, Whitman left school teaching, did some carpentry, and wrote for a time for tens of local newspaper in both Long Island and Brooklyn. As editor of the Brooklyn Eagle, Whitman publicly supported the Free Soil Movement, which would have made the western states free of slavery, and he publicly supported rights for women and children. In the so-called Age of Reform, Whitman embraced most progressive causes through his newspaper work, to the point of being asked to leave the Brooklyn Eagle because of his support for progressive causes. During these years, he published the occasional poem or story in inconsequential literary journals, though he was largely unheralded as a writer until the publication of the 1855 edition of *Leaves of Grass*, a volume that Ralph Waldo Emerson praised in a now famous letter in which he said, among other estimations: "I give you joy of your free and brave thought. I have great joy in it"(Greenspan 2005, p. 39).

Leaves of Grass is part of the tradition of Le Brun, Bell, Jelgerhuis, Fuseli, Lavater, and Darwin, which found aesthetics to be an adequate realm to locate social and political meaning in the body. But prior to Whitman, the body is seen as separate parts. *Leaves of Grass* seeks to reconfigure the human relationship with the human itself, and "I Sing the Body Electric" is the poem that most nearly gives voice to how the body will lead the mind to free thought. That unbound mind will be capable of seeing the miraculous beauty of God's love as it exists in the natural world, perceived through and by the body and its desires. It is a poetry that seeks to raise the view of the body beyond the damnation of shame; Whitman openly accepts the 'miraculous' position of the woman as creator of life. This is unusual for a man at that time. Some see women's reproductive capacities as the source of male misogyny. Because the male cannot bear life within him, he is driven to see the birth process as something that excludes the male, and drives the male emotions of jealousy and hatred of the female. Not Whitman:

Be not ashamed women, your privilege encloses the rest,
And is the exit of the rest,
You are the gates of the body,
And you are the gates of the soul (Whitman 1975/1979, p. 131).

Whitman's new cosmos will be imbued with ideas of wholeness and perfection, of equality of the sexes, of the liberation of bi-sexual desire, and a body-centred view of the social polity. The creativity of the body's desire, both male and female, will counter the destructive teachings of political philosophy and religion and restore the dignity of the individual, whether male or female or black or white, and Whitman knows how difficult this project is. In the beautiful "You who hold me in your hand" poem, in the Calamus section of *Leaves of Grass*, Whitman acknowledges that he is condemning his followers to a life outside of society:

The whole past theory of your life and all conformity to the lives around you would have to be abandoned (Whitman 1975/1979, p. 149).

That is the private Whitman, the Whitman who might have been tarred and feathered for the rites of passage of a gay boy in the 19th century. The public, political poet joins his voice in the liberation movements of his time. In section 7 of "I Sing the Body Electric", he sees a slave at auction

Within there runs blood
The same old blood! The same red running blood!
There swells and jets a heart, there all passions, desires, reachings, aspirations,
(Do you think they are not there because they are not express'd in parlors and lecture rooms?) (Whitman 1975/1979, p. 134)

It is important not to romanticize Whitman. Again, he re-wrote his poetry well past the days of the Civil War. Nevertheless, this is a radical statement in any age, let alone during the age of slavery in the United States. Here, the body is what joins us, not what separates us. Race itself is submitted to the wider cause of humanity, which runs through all our blood. In addition, the

Feminism and Free Soil Movements become the immediate political concerns for Whitman's new cosmos and free world. Like Lincoln, he saw slavery as beneath human contempt, but he also saw the need for the constitution and the union (Reynolds 38). In an editorial in the *Brooklyn Eagle*, he wrote, "Despising and condemning the dangerous and fanatical insanity of 'Abolitionism' – as impractical as it is wild – the *Brooklyn Eagle* just as much condemns the other extreme from that" (Reynolds, 35) Even so, despite these contradictions and second thoughts of a newspaperman, astride these mixed feelings in politics, Whitman's counter-metaphysical poetry attempts to reverse western thought. The body is the source of intelligence, and motion is an essence of cognition. If Whitman valued the political constitution of his beloved American union, he was at war with the western philosophical tradition. The view here is that these struggles continue to the present day. One could argue, in a sense, that while Thoreau's vision for seeing human society as born of and a part of nature, that Thoreau's vision has given rise to institutions of learning, politics, and vital science; Whitman's theme of seeing the body as the source of a common humanity struggling to free itself from tyranny is more radical still, and this struggle for acceptance of 'physical truths' continues. Like Descartes in his time, Whitman stood between the soul and body, pulling together the bifurcated human consciousness, bringing the body into the process of understanding: body as soul, body as mind, the body's desire as the source of democratic principles of tolerance, acceptance and sympathy for a fellow citizen. And while embracing reform movements of his day, the underlying counter-metaphysics of Whitman is a radical restatement of Emerson's call to flee the pews, schoolhouses, and see the miraculous creation as perfect in every instant.

(All is a procession,
The universe is a procession with measured and perfect motion.) (Whitman 1975/1979,
p. 132).

In the 15 years in which he wrote the first version of *Leaves of Grass* (1838-1853), Whitman referred to himself an "average man". He liked to cook and he drank moderately. He swore off coffee and tea and tobacco, substances that distort the body and conceal its desire. He was calling for the complete unveiling and realization of the body's inner light. And this was not ordinary in any sense of the word. He was dreamy and perceived as unmotivated; and in fact some people suggest that after his stroke in 1873, his grasp on reality itself became questionable. Yet the young Whitman had a keen sense not only of language but of the

idiomatic and musical elements of everyday speech. He also sensed his own life played an important part of the new ways of life in America, a country that allowed for freedom of the individual on an unprecedented scale, that allowed for the individual in ways that Hume, Rousseau, Jefferson, and Emerson had foreseen. Emerson's vision of people who viewed themselves as 'gods' walking through the forest, as godlike beings, with minds on fire, engaging with one another and the world in pursuits of new truths and new voices, Whitman brought to bear in a physical way. Freed from the shackling traditions of religion and small town superstitions, Whitman took Emerson's philosophy to a kind of logical conclusion: complete freedom of body and soul; the celebration of sensuality and the body's multitudinous desires; equality and an acceptance of all lifestyles in a way that remains radical even by our own standards. (Let us not forget, in America today, in some places, *Leaves of Grass* is viewed as burnable for its damnable attitudes toward the body's place in our life, and for speaking of the love that should not be discussed among Christians.) Consider the closing section of Whitman's "I Sing the Body Electric":

O my body! I dare not desert the likes of you in other men and women, or the likes of the parts of you,
I believe the likes of you are to stand or fall with the likes of the soul, (and that they are the soul)

The brain in its folds inside the skull-frame,
Sympathies, heart-valves, palate-valves, sexuality, maternity
Womanhood, and all that is a woman, and the man that comes from woman,
The womb, the teats, nipples, breast-milk, tears, laughter,
Weeping, love-looks, love-perturbations and risings,
The voice, articulation, language, whispering, shouting aloud . . . (Whitman 1975/1979, p. 135)

Biology is process, breast-milk as essential as language, we come to the end of this section in the body itself. We are not in the city or on the farm. We are not in the nation, or listening to the voice of anyone of Whitman's 'millions'. We are not in any political landscape, but we are literally in the body, and it is not a vision of a utopia, but of the natural extension of the constitution of humanity. The new world is new in thought, and the new thought is a logos at home in the physical reality of women, men, blacks, homosexuals, transsexuals, and all who come before the institutions of freedom and liberty in an honest expression of desire.

The curious sympathy one feels when feeling with the hand the naked meat of the body,
The circling rivers the breath, the breathing it in and out,
The beauty of the waist, and thence of the hips, and thence downward toward the knees,
The thin red jellies within you or within me, the bones and the marrow in the bones,
The exquisite realization of health;
O I say these are not the parts and poems of the body only, but of the soul
O I say now these are the soul! (Whitman 1975/1979, p. 135)

Sources of the Communicative Body

Chapter 7. Interfield 4: Part 1. Vignette: The School of the Teacher's Voice

Conspicuously lacking from our verbal armory are any commonplace expressions for intuitively felt divisions of the stream of speech into intonation units, comparable to the lay grammarians word and sentence (Brazil 1982, p. 93).

Don't tell this to the educationalists, but when I take these kids bowling, or show them a great movie, their faces light up. They don't understand why school shouldn't make them happy, and they try to hold on to that. . . . Because the television or bowling makes them happy. Like all of us, we want to keep pressing that lever for the stuff that makes us feel good. If we're going to reach these kids and make them feel like they can make it and do things a little bit better in their lives, it sure as hell isn't gonna come from putting them all in a box and labeling them as this or that thing. Mainstream schools miss this point. And what we're dealing with here is the tip of the iceberg (David 2005)

As noted above, one element of my ‘dreamtime’ methodology was to compare the non-linguistic expressions of a novice teacher with a master teacher. However, as I reviewed the film of the teachers, comparison became a limitation on the ‘local truths’ at work in the two films. Nevertheless, the initial idea about comparison resurfaced when I began to investigate the aspects of intonation and voice. In this vignette, I compare certain features of how the voices of two teachers, one a novice and one a master, are at work in the classroom

The subject of ‘voice’ crisscrosses a number of disciplines. In the last two decades, ‘voice’ has been a conceptual frame used by some feminist and post-colonial theory. “After all, consciousness raising was never a silent levitation but always grounded in talk, and in the relations of women who ‘opened up to each other’ and through ‘disclosure’ “(Grumet 1990, p. 278). Autobiographical voices have informed curriculum theory through identity politics as well. We understand the voice as concept, system, ‘meaning’ but rarely as the utterance and expression of our subjectivities. “Voice’s is a technique for linguistic expression, an aspect of the body with values such as possession (having voice), sharing (giving voice), and music (singing voice). Drawing forward the submerged definition of the literal voice—that the voice is of and by and for the body, I hope to build a bridge to a new territory, one that includes the political and social and engendered concept of ‘voices’, but the literal voice as well, the vocal folds, glottis, and frequencies which can be shown to either shrink or expand the social field between I (teacher-as-speaker) and the Other (student-as-hearer).

Voice as a concept has advanced educational theory and practice in ways that can be celebrated. In the post-feminist years, “Voice emerges as an important concept not only in an effort to understand curriculum as autobiographical and biographical text, but in feminist and political theory as well” (Pinar 2000, p. 524). This conceptual framework for understanding voice is and should play a major role with respect to the politics of curriculum. This study argues that a return to the literal understanding of ‘voice’ also offers us a way to re-envision the social field of classrooms in inclusive and illuminated ways. In other words, I celebrate the advances in the concept of ‘voice’, but also return to the voice itself. The connection between the teacher’s voice and the mother’s voice or the father’s voice is a relational and kinesic value important to learning. As noted above, two weeks into its life, through blinking, facial expression, and arm and leg movements, a human child exhibits both interrelational synchrony and self-synchrony in relation to the intonations of language. These kinesic responses to the stress and rhythm patterns

of the mother or father or sister or brother's voice are effectively the beginning of associated life (Condon 1966).

Brazil, Coulthard and Johns (1980) view tonal choices, key, and termination of the voice as influenced by three factors of particular speakers in particular situations:

- 1) Idiosyncratic: the nature of an individual's voice, their 'normal' range for speaking, varies by person, gender, and training.
- 2) Socio-cultural: Some social groups influence the ways in which their members speak. This influence can be exerted in the workplace, in the division of labor at home, or in gender roles, etc. We might suggest that males in American society are 'expected' to use a relatively narrow and low pitch range unless they are a sports star or politician rousing a crowd.
- 3) Emotional: The factor of emotional content to an utterance will often influence choices of key and pitch level to express attitudes. An extension of range might be used to express excitement and anger, while a restricted range might be employed to express boredom or tiredness. This extension and restriction of ranges can be shown to expand or contract the common ground between speaker and hearer.

The emotional and social qualities of the voice—the communicative values of stress patterns, rhythms and personal qualities of the sound of the voice—are fields of research and useful knowledge that need further elaboration for a number of reasons. On the one hand, the line between home and school has increasingly become blurred. While the early history of child care is unclear, orphanages are a founding idea of civil society going back to Babylon. Educational theory from Comenius called for a 'school of the mother's knee'. Rousseau, Froebel, Itard, and Pestalozzi's educational thought also provided rules and roles for governing the intellect and development of the child from early age. When modern records and mass publication appear, educational theory and history can be seen merging the literature of orphanages provided by Pestalozzi and, famously, Montessori Children's Houses, with formal pedagogy and public policy. Pestalozzi, who may be considered an originator of 'modern' ideas about education, in the 1820s wrote,

My days may be numbered, my glass may be run, long before you may chance to hear, that in a far distant land, in a valley between his native Alps, there lived, and lived to old age, a man, who knew not a cause of higher interest, or of greater importance, than that in which you are now engaged; whose life has been spent in endeavors, weak perhaps, but in which was concentrated all his strength, to assist in their task the mothers, and those who may act in their place, and those on whom may devolve the duty of guiding the mind (Pestalozzi 1827)

The expansion of the role of schools and the creation of the industry of child care implies that what used to be ‘work of the heart’ is now partly the work of the teacher. We can illustrate this shift in the content of education in a number of other ways. As the ‘civilization of productivity’ required women in the workforce, due to both war and cyclical economic expansions, we find the concept of ‘heart-speak’ move from a purely family responsibility to an educational one: the ‘first’ day care center opened in Paris in 1844, and was soon followed by one in America in 1854.

From its beginnings in the early nineteenth century until the rise of the nursery school in the 1920s the day nursery was the only formal program for the care of young children. A conceptual history of day care over the last 150 years recapitulates the changing views of the child . . . To accuse the past of providing merely ‘custodial’ care is to ignore those who attempted to do much more, who sought definitions and justifications for practice (Fein 1973, p. 12)

The last one hundred fifty years has seen the expansion of day care at rates that have enlivened the public sphere with debate over the role of women in families and work places (Singer 1992). If numbers tell any story at all, it would appear that the forces of progressivism with respect to working women are winning the debate. In America in 1938, records show approximately 300,000 children were in licensed programs. In 1945, almost a million. In 1973, records showed 640,000 children using licensed day-care facilities, but “estimates of the number currently needing care have ranged from 2 to 4.5 million” (Fein 1973, p. 11). And this is just one country. The number of children worldwide in day-care and child-care facilities, in orphanages and attending the schools of the streets would be a big number. The changing view of the child and the family in global society over the past century requires us to consider changes in how we conceive of educational processes as well.

Voice as both metaphor for social group and the synchronizer of body-tones might both become categories for self-study and consciousness raising. Grumet writes, “Drawn from the body and associated with gender, voice splinters the fiction of an androgynous speaker as we hear rhythms, relations, sounds, stories, and style that we identify as male and female”(Grumet 1990, p. 278). It would be difficult to put an exact date on when this shift in content of the voice took place. However, when many women in western societies sought work outside the home in the 1960s, early childhood socialization became a discipline of educational theory. Many schools now have child care and after school care programs. The line between the informal and intimate socialization of home and the formal learning of the classroom has thinned. This study argues that new needs can be seen to require teacher training to involve self-study and reflexive practice that includes knowledge of the communicate values—both social and emotional—of the body itself. Voice as content is a concept of identity. Vocalic quality is a non-segmental, non-linguistic feature of communication where volume, tempo, register, weight, etc., play a role in conveying and exhibiting emotional and personal characteristics that can either expand or shrink the social field between speaker and hearer (Brazil 1997).

Two of the mediums by which the voice conveys non-linguistic knowledge are intonation and frequency. By and large, pitch and frequency have been used as categories for the diagnosis and treatment of voice disorders (Boone 1994). Voice disorders are seen as incongruence between a person’s social state and the sound that they project. A male to female transsexual, for example, might experience anxieties as their formerly low, male voice does not fit the persona of their new, female identity. Age, gender, smoking, race, ethnicity, and even socio-economic status have all been seen to influence voice quality. Occupation is another factor that influences not only the words we use, but how use the words we speak. Because of the multiple variables in voice quality, pitch and frequency, it would seem intonation and pitch are difficult swamps to navigate.

The scholarly debate over these issues and their relation to linguistics is both relatively new and somewhat confused. While we can suggest that stress, meter, and rhythm have long been acknowledged as aspects of prosody, it is only with Trager’s work in the late 1950s—what this study would view as the ‘classic renderings of the little science of nonverbal communication’—that intonation, pitch, and frequency begin to be seen as having communicative value outside of or in some way separate from language.

Following Trager's initial discussion of paralanguage (1958), theory building has investigated connections between animal and human communication, connections between non-vocal and vocal arrangements, non-segmental aspects of speech, and phenomena of speech that are not language (Cammack 1967). These bump syllables, blips and half-asked questions, the ers and ums and ahs and Os are relatively important features for teacher talk. Goffman called them the 'greasy' parts of language (Goffman 1979). What he might have meant is that they grease 'meaning' and can be indicators of many positions: dominance and control, reference, passing the speaking baton, openness to social exchange, etc. This functional quality to the parts of speech that are not speech has also been called the nonlinguistic elements in conversation (Abercrombie 1965). Much of this theoretical discussion stems from Trager's work that tried to define paralanguage as an element of kinesics, an approach to semiotics that broadened the understanding of both human and animal communication into the physical activities, the materiality of communication (Trager 1958).

By and large, the materiality of words had been seen for a long time as a linguistic description. Beginning with David Crystals' work (1975) intonations were 'read' as something not resolved by either grammar or attitude. Crystal makes the observations that the vast majority of tones in connected speech carry no semantic meaning because their occurrence is syntactically predictable. As Quirk had pointed out (1972), "a tone unity (in English) has a falling nucleus unless there is some specific reason why it should not" (Quirk 1972, p. 104). Crystal, Quirk and others argued through the 1970s that this dominance of falling nucleus of most English speech accounts for between seventy to eighty percent of tone choices, and that the other twenty to thirty percent are the choices that need explaining and interpreting. How a teacher, for instance, varies the stress and rhythm patterns of the language can heighten effect. For example, categories such as 'presence of emotional involvement in pitch' might be developed as ways to frame discussions around the twenty-thirty percent of intonation not engaged in a falling nucleus. As we will see below, both of our teachers vary the normal falling pattern of the end of a sentence in English.

The work of David Brazil, Malcolm Coulthard and Catherine Johns (1980) changes the debate about intonation in English once again. These authors argue that intonation choices carry information and influence "the relationship between the discourse function of individual

utterances, the interactional ‘given-ness’ and ‘newness’ of information and the state of convergence and divergence of the participants” (Brazil 1980, p. 11). This interactional view is very much in keeping with the argument of this study: semantic meaning and the communicative values of the materiality of the body involve a common ground that co-determines social and emotional and material qualities of comprehension. This cannot be studied as grammatical, lexical or syntactic arrangements of words alone, but as expressions of the social and emotional attitudes fossilized by movement and vibration in kinesic combination with linguistic feature and definition. “Tone choice, we have argued, is not dependent on linguistic features of the message, but rather on the speaker’s assessment of the relationship between the message and the audience” (Brazil 1980, p. 18). The assessment of the speaker, separate from a ‘real world truth’ expressed in language, indicates that intonation originates in the attempts by a speaker to attune themselves within the social field made up by the speaker’s relationship to the responses of the hearer: in other words, the materiality of the voice itself defines the contours—harmonious or not—of the social field.

With the work of David Brazil, Malcolm Coulthard and Catherine Johns, (Brazil 1980) and Brazil and Sinclair (Brazil 1982), the discussion of intonation and elements of frequency moved the discussion of the literal voice into the classroom. Speech pathology has also recently had some role in teaching services, as the loss of voice can mean the loss of career. Accidents and illnesses may affect the voice in a way that needs treatment. At the same time, the intonation literature of the 1980s, which aimed at giving teachers a vocabulary for vocal qualities which would be to ‘word and sentence’ in grammar studies, has not born the fruit it might have. I want to return to it here.

One helpful distinction made by much of the literature is between acoustic aspects of pitch and frequency, as opposed to intonation and stress (prosody).

| | |
|---|--|
| Acoustics Aspects of Pitch (Frequency and voice quality) | Intonation and Stress (Prosody) |
| What many agree are the non-linguistic features of the human voice involve non-segmental, vibrational elements of the | Voice quality also engages in intonation. Some aspects of intonation are ‘built into’ the language. There are ‘Japanese ways’ of |

| | |
|---|--|
| voice: | speaking, just the same as there are English ones. Also, it has been shown that aspects |
| Frequency: from low to high | of age, sex, and class influence the ways in which we speak and how our speech |
| Vocal fold vibration: faster vibration results in a higher frequency. | creates personal and emotional impressions in the hearer. Intonation involves categories |
| Human vocal folds are influenced by size, mass, tension, etc. | of study that can include prominence, key and termination (of the tonal unity) tone, and pitch |

Because the vibrations of the voice are so closely linked with linguistic ‘meaning’, the claim that the voice is a non-linguistic value encounters some discussion. Some, including Halliday, have claimed that the voice is lexical. Others have used words such as ‘trans-linguistic’, ‘extra-linguistic’, or ‘paralanguage’ for the tonal messages carried by the vibrations of the voice (Trager 1958; Hall 1959; Birdwhistell 1971; Burgoon 2002). While it would be difficult to argue that the voice is not intrinsically linked to language, qualities of the voice itself can be separated from linguistic messaging and seen as critical component of the communicative body with respect to teaching effectiveness. Non-segmental speech, emotional utterance, and voice quality have all been shown to be significant features in how we understand another person. Considerable work was undertaken in the behaviourists’ sixties. As David Crystal points out, the lack of consistent theoretical distinctions for terms such as ‘emotion’ ‘personality’ and ‘stereotype’ meant that no theory on voice and emotional content enjoyed widespread agreement (Crystal 1975). Yet if a direct bridge between voice quality and emotional content has not been built, the reflexive practice and self-study of teachers might be enhanced by understanding the level of physical activity—the materiality—that influences the weight, dynamism, patterns and rhythm of classroom talk.

Like the study of the face and hands, the communicative values of intonation and frequency in classroom speech is a new field. The vibrations of air as they pass through the glottis and our vocal folds have long been considered as elements of music and the qualities of harmonic chambers in the singing voice. In addition to song, stress has been considered in relation to

prosody. To be clear, it appears that it is not what you say but how you say it' has been a function of rhetorical; analysis for some time, but general properties of tone are relative newcomers to discussions of teaching practice. As has been shown by Eichenberger and Thomas, a change in the posture of the body of the conductor will create different tones—different pitch and weight and rhythm—in a musical note generated by a chorus or orchestra (Eichenberger 1994). In fact, a conductor who simply mimes the movement of the mouth during singing will also create changes in the tone of the chorus. A change in the vibrational range of a teacher's voice may also be explored as a communication value with influence on interrelational possibilities.

Measurement of voice

With recording, the human sciences began to develop systems for understanding the voice as also affected by pitch and posture, breath control, enunciation, vibrato and what is called the resonating chambers. The sound spectrograph, an automatic sound wave analyser, is a basic research instrument used in many laboratories for research studies of sound, music and speech. It has been widely used for the analysis and classification of human speech sounds and in the analysis and treatment of speech and hearing disorders. Not surprisingly, as with many aspects of education and research, the original impetus for developing this technology came from the military's need for ways of understanding the enemy. The original instrument was refined by Koenig, Dunn, and L.Y. Lacy in 1955. Those original machines allowed for detailed, graphic representation of short-time speech spectra in a form that revealed important temporal and spectral properties, such as stop, articulation, and formant frequency. For this study, as we will see, frequency is one of the qualities of teachers' talk that might enhance our understanding of what makes a 'good teacher'.

With respect to teacher training, "the study of the voice is abysmal" (Fieldnotes 2006). A speech pathologist I worked with suggested that the area of work on voice has only rarely extended to teachers beyond the study of speech impairments, through accident or birth. There are some job protection measures with respect to the loss of voice teachers. The area of self-study and evaluation of voice as a playful, professional development in teacher training has not progressed from its initial promise in the 1980s. This is unfortunate in some respects. The voice has to do not only with the understanding of the word, but the vibration, pitch, and resonance of the voice carries communicative values that link some of us to our earliest moments of life. Since speech

is the process by which we hand on our ideas in slightly different form, meanings are transformed, disfigured, rearranged, and reproduced by the ears and minds of the hearer, it can have an effect on social relations.

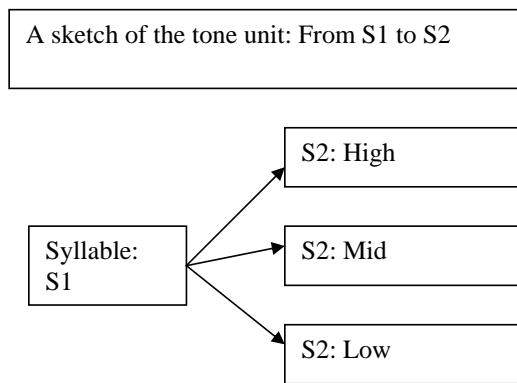
In *Discourse Intonation and Language Teaching* (1980), Brazil, Coulthard and Johns identify three reasons to enrich our ideas of intonation with respect to the teaching of foreign languages:

1. There is a need to “enrich the comparative poverty of the language of the classroom. This enrichment is not only about vocabulary, topic or activities but crucially in terms of the role of speakers in relation to each other” (Brazil 1980, p. 128).
2. Intonation is not a function of linguistic meanings, grammar, or attitude conveyed by discourses, but “moment by moment assessment of the communicative value of each part of the utterance” (Brazil 1980, p. 128).
3. Intonation should be considered a part of the materials for language teachers. On this last point, this study would like to extend these materials to include all teachers, and especially the trainers of teachers.

Systems of intonation vary somewhat, but for this study I am using four areas, or systems for analyzing the vibrational qualities of the human voice; these include prominence/key/tone, and termination (Brazil 1997). Variables of intonation can also include voice quality, speed, rhythm, and loudness, and these are separate from the four primary features of intonation. Other systems have developed in the growing and important field of speech pathology. For example, some systems will employ a perceptual voice profile, which will analyse the voice according to pitch, loudness, and quality. Quality of voice is an enormously important subject for teacher training. For instance, ten ‘qualities’ of the voice are often identified: breathy/strained/rough/ glottal fry/pitch breaks/phantom breaks/voice arousal/falsetto/trembo/diphthongal. The social context of the interaction in which a hearer comprehends these qualities along with the fundamental frequencies of the voice will be a subject for wider learning in the future, when the direct connections between learning and the materiality of the body might be visualized in more evidential ways. For now, I would like to further define Brazil four systems and then look at the findings from our two teachers: novice and master.

Prominence: It is difficult to separate the effects of one system of vibrational values from another. However, a good deal of work on intonation discusses prominence as a feature of the vibration of voice that determines the beginning and end of the tone unit. Prominence is separate from accent. When we say a word such as ‘morning’ in English, the accent would usually fall as MORning. However, if we say *Good* MORning, we say that the prominence given to the word ‘good’ in the tone unity has communicative value. Likewise we could make the intonation fall another way: good *MOR*ning. Prominence is a function of a speaker’s selection that one word or syllable in a sequence contains more value than another. Not mentioned in some of the literature, but coming to us from musical notation, would include discussion of time and the stretch of language that begins with the onset of an utterance and concludes with silence. In other words, prominence implies a decisions by the speaker to give a syllable prominence or non-prominence, of quickness or slowness, of pace and length.

Key: The choice of the key is a function of pitch level and is related to the concept of termination as well. There is debate in the field of what are the meaningful ranges of pitch, but a good deal of phoneme theory suggests there are three choices: high, mid and low pitching of the tonic unit (Trager 1951; Ladefoged 1975; Halliday 1978; Brazil 1980). By and large, we recognize that a speaker who utters one syllable has, effectively, three selective choices for the following syllable:



Tone selections are not absolute values, but are relative to the syllable that came before. As we will see below, Teacher B is pitched higher during the voice sample. Her use of the higher fundamental frequency range means that variations upward and downward are relative to a higher pitch frequency than it is for Teacher A.

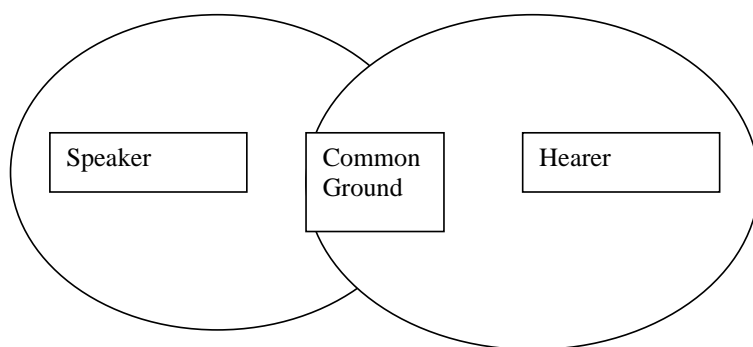
Tone: Tone is the pitch movement of the tonic syllable. English intonation has been identified as possessing five tonal patterns: fall, rise, fall-rise, rise-fall, and level. A speaker effectively chooses one of these tonal characterizations of sound, and in principle can select any, though there are patterns, language by language, and speaker by speaker, that have been investigated.

David Brazil also identifies sub-systems within the five pitch movements that will contribute to making up tone: proclaiming/referring opposition, dominance and control, and questions and social elicitation. While Brazil acknowledges that the justification of these sub-systems have to be taken on trust, with respect to teacher talk and the patterns of classroom utterances they can limit the investigation in what can be seen as a helpful way. As we will see below, the vocal samples of our two teachers can be seen to be examples of what Brazil calls referring tone that establishes the speakers' control (r+). They begin with a fall tone and end with a fall rise pattern and the role of the speaker in relation to the hearer is relatively clear. (Or novice teacher varies from this r+ tone in a notable way: she uses r+ tone in the form of questions and indicates she wants her hearer to speak, a matter which we will discuss briefly below).

By and large, in teacher talk, we hear the fall tone, the rise fall, and the rise. Again, since classroom discourse is different than informal conversation—for better and worse—we often times identify a rise tone at the end of a tonal unit as a way in which the teacher or speaker can indicate they want to maintain control of the exchange. Rising tone and higher frequency appear to indicate what we might call a kind of suspension—a not handing the baton over—such that the quality of the voice has a communicative value of “I’m not quite done yet”. The roles of teacher-student, with respect to dominance and control issues, as well as questions and solicitation of response, mean that intonation in the classroom will reveal patterns that vary from informal, conversational speech.

Common Ground:

The extra-linguistic elements of intonation and frequency are critical for this study in the sense that they define the interrelational values of communication. In other words, as we have seen with both facial expression and hand gesture, one feature of the communicative body that is distinct from linguistic meaning is that a gesture is only understood in exchange. (As I sit here writing, the meaning of the text has semantic properties that can be said to ‘exist’ as separate from any result. These words mean something whether anyone reads them or not . . .) The communicative value of intonation —like facial expression and the gesture of hands— effectively defines the social fields in which learning happens. Brazil calls this social field ‘common ground’.



For this study I have referred to the interactional ‘area’ between speaker and hearer as social field (Lewin and Cartwright 1952). Over the past one hundred years, since Dewey suggested we begin to develop a philosophy that encompasses ‘the associated lives of men’ (Dewey 1916), human sciences have begun to develop technologies to measure these fields: in film, with the sound spectrograph, with reproduction technique that allows us to reproduce and view the frescoes of Giotto. All these technologies contribute to our interest and ability to define how communication takes place. As noted above, film and sound recordings do not necessarily improve our ability to observe. The limits of technology do not, however, completely

deconstruct our ability to understand social fields and common ground. In effect, painting, photography, and film have allowed us to distort and misuse the communicative body as well as gain a clearer understanding of its workings. For the study on intonation in the classroom, for example, being able to play and replay a recording of classroom exchange allows us to build systems for understanding that might enable clearer avenues of self-study and reflexive practice. For example, Brazil's system allows that some utterances seek to increase the common ground between the speaker and hearer (referring tone), while some utterances seek to negate or shrink the common ground (proclaiming tone). How a teacher or student uses the vibrations of the voice—separate from semantic or grammatical values—to either enlarge or shrink the social field involves attitudes of social inclusion/exclusion; warmth and presence/distance and neglect; urgency/calm; pleasant/unpleasant; sincerity/irony. This enlargement and/or shrinking of the social field through the vibration qualities of the voice might be used either well or poorly by a teacher as they pursue the goals of their work. As noted above, these goals can be seen to include:

Expectation: Description of the content of the lesson and teacher expectations

Anticipation: The organisation of the lesson, what the student can anticipate within the immediate future as they engage in the lesson.

Consequence: The social and academic aspects of the lesson that might go under the name of discipline: the consequences of success and/or failure as a student engages with the lesson.

Method: One Minute of Class Time

In vocalic samples from our two teachers, Teacher A and Teacher B, I have selected one minute of discourse in which the teachers are explaining the lesson, what I call the expectation phase of the activity. I will do a brief analysis of one phrase of the vocal sample, and then consider the frequency of the entire sample. The phrases I have selected come when the teachers are discussing elements of time in relation to the lesson.

In addition to observations about intonation and frequency, there are semantic differences to consider as well. For instance, our novice teacher, Teacher A, engages in far more exchange with the pupils than our master teacher, Teacher B. Our novice surrenders control of the discourse numerous times in our one minute sample; whereas our master teacher does not surrender control at all. She does, at points, ask rhetorical and fleeting questions, or uses ‘bump syllables’ to transition from one ‘meaning’ to another, but she does not turn the speaking baton over to the students. Our novice teacher asks six questions during the minute sample. Her use of questioning tone is also referring tone, as she expects the pupils to respond. Our master teacher uses questioning tone once, but in a proclaiming tone. She is not requesting a response.

In addition to what might be called the ‘abnormal’ occurrence of rising tones in our two samples, variations in tone, key, and pitch can happen even within syllabic expression. These values are also closely linked with the communicative value of the termination of the tonal unit. For example, Teacher B, our master teacher, often will use what might be called ‘bump syllables or words’. For instance, at the start of our vocal sample, she uses the syllables ‘Yup yup’ in a fall-rise tone. In another instance she uses a one word question ‘alright?’ in a rising tone and high pitch. These have been called boundary markers by Brazil (1997) who has suggested that entry and termination points with tone begin and end with low tones, and these low tones are sometimes ‘chunked’ to suggest the boundaries of tone-unit. Crystal and Quirk also note that primarily, in English, the nucleus of the tone unity is a falling tone. It is when the tonic unit is used for tones other than falling that we consider questions and categories such as proclaiming/referring/interrogative/neutral, etc. Boundary markers are often times ‘doorways’ into interpretations of how intonation is working.

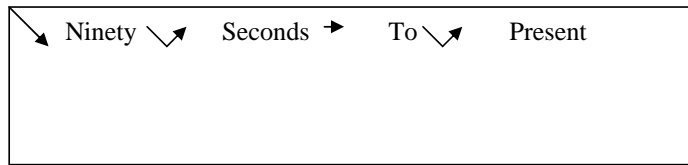
Both teachers in our samples also interrupt the normal, semantic flow of the grammatical sequence, using a kind of non-grammar at times as a way to assume dominance in the spaces between hearer and speaker as well. In other words, both our teachers will speak in a non-segmental way as a strategy to keep the listeners from comprehending a message, as a way of creating suspense. These are fills in which the teachers forgo the termination of speech, and assume a kind of control of the common ground between the speaker and hearer as a way to maintain attention, dominance, control, as they explain the activity. Social context is, in many ways, an irreducible tool for understanding how the vibrations of the voice incur values. As we turn our attention to tone, it is important to keep in mind that these are relative values of the

speaker's selections and also interrelational values that take shape in the common ground between the speaker and the hearer.

Another striking difference is that our novice teacher asks the students to define the meanings of key words in the lesson activity. Our master teacher does refer to previous lessons and meanings external to her instruction, but does not turn the definition of meaning over to the students.

There are other notable differences in the use of language by the two teachers in this brief sample, ones that might be explored at some length to shed light on the different experiential practices of our two teachers, but those are questions for the linguist. What I would like to do is present the words used and do an analysis of both tone and frequency, as these are two extra-linguistic communicative values of the voice where we might better understand the common ground between speaker and hearer in classroom discourse.

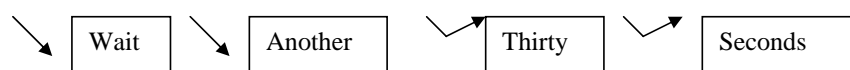
Teacher A: You'll have ninety seconds to present. And just before we present. Let's just go quickly over what skills we learned about from last time. What listening skills do we need to remember when we are doing this activity? Who remembers the three Ps? . . . Daniel . . . (Student: response) What was it called? What was the second one? . . . (Student: Response) Yeah, what does probe mean? (Student: Response) Caroline? (Student: Response) No, something else. What is probing? Christopher (Student: Response) ask questions to clarify anything you are unsure about. And the last one was paraphrase. And Caroline, that's the one where you actually tell the people what you think they're saying. Alright, now are we ready . . . Now, the inner circle. . the people on this side will talk about their artifact first. What type of things . . . just before I get you to talk about it, what type of things do you think you'll tell people about your artifact. . . Why it's important for you, good. Anyone else? (Fieldnotes Oct. 15, 2005)



Teacher A's choice of the fall-rise tonal unit on the last four syllables can be seen as a selective choice that uses the voice to communicate variation from preceding values that can be seen as notable. This tone also can be seen to differ from conversational tones in English intonation, which by and large follow a fall-tone (Brazil 1997). When we combine these interpretations by noting that there is prominence on the preceding word 'have', we see the complexity of intonation with respect to relative values within a message unit. Teacher A uses a p+ tone with a preponderance of fall-rise tone, which indicates urgency, dominance, directionality. There is also a notable frequency variation on the words 'seconds'. Here, it is again important to note that it is hard to separate tone from pitch and qualities of loudness. The teacher combines the p+, rise-fall tone with a higher frequency and pitch on the words 'seconds' to add what we might call a physical weight and up-tempo rhythm to the element of time. Again, these communicative, non-linguistic values generated by the vibration of the voice occur in the context of the spaces between speaker and hearer and the expectations of the relationship between the two.

Teacher B: One Minute of class time:

yup yup. So the story you can make in your mind. Yeah, grouping them together. all those sorts of things. Alright? So you'll apply those sorts of knowledge to the very first exercise that you did on memory. So we'll need toyup. Now, remember when we did it I'm going to ask you to go back to your seats and then I'm going to ask you to wait for another thirty seconds. So that you to go and you won't have to draw it out again. which makes it really important to remember to have some sort of strategy to springboard it off. Remember when you're visually, looking up to the left stimulates that part of visual memory. When you're recalling you're looking down to the right. Like, what did you say to me? .Remembering that when you're thinking about what you heard and what you go t wrong. Remembering You've got plenty of skills to do this . . .(Fieldnotes February 22, 2006)



In the above example, the teacher can be seen to be using a referring tone on the word 'wait' in the sense that she is identifying certain new possibilities to the hearer. They will have thirty seconds (to wait before they begin). In a classroom, unlike in informal conversation, there are (artificial) issues of dominance and control in tone choices as well. Here, the discussion verges toward qualities of voice such as 'forcefulness', 'insistence' 'voice arousal' and the vibration language in which a speaker might exhibit more (emotional) intentionality than they would in

ordinary ‘sidewalk talk’. In the same way, the repetition of the rise-fall tone at the end of the phrase supports the qualities of the voice.

Interactional Significance of Intonation and Pitch

Intersubjectivity implies that there is a certain unbounded field for how meanings and attitudes are shaped and understood. The classroom is one ‘contained’ common ground where symbolic representation of social facts can be surrounded by certain deconstructive methods of observation. In other words, the exchanged goods of social fields are intangibles’ such as emotion, states of expectations and anticipation. However, film and instrumentation such as wave documents—our virtual bodies—allow us to liberate social fields as digital bits. This too, I would argue, is deconstructive in a way that obscures the immediacy of symbolic representation of sociality as well as personal identity. Teachers in this exercise might have had bad days; they might not like the lesson; they might be underpaid. These external considerations were explored to some degree in pre and post interviews. Nevertheless, these interpretations should not be understood to be representations of ‘truths’, but as explorations of the ways in which our understanding of intonation might enhance awareness of social fields and issues of inclusion and exclusion in learning processes.

Frequency and Pitch Level

Certain categories of intonation are now capable of being distinguished on the basis of pitch variation alone. In investigating the scope and meaning of the communicative body and its relation to social fields, speech pathologists will use types of software to analyse voice quality and seek to ‘treat’ certain vocal impairments in children, the injured and the elderly. Isolating elements of frequency has both positive and negative implications for study. On the one hand, it gives the appearance of objective, physical correlates that allow us to investigate how the voice is working. On the other, this isolation ignores the social and individual context of the utterance itself. I include the following for two reasons: 1) In the spirit of play, in the spirit that technology does not have to be seen as deconstructing the socio-cultural influences entirely, viewing the sound patterns of voices as abstracted and isolated correlates is an approach for better understanding the voice; 2) The differences noted in the two teachers’ frequency measurements has implications for how we understand intonation in the classroom; in other

words, the findings are curious, and require comment. For these two reasons, using CSL software, I ran the above two vocal samples through computer processing software to identify certain elements of frequency.

Voiceprint Findings

| | Teacher A: Novice | Teacher B: Master |
|-----------------------|-------------------|-------------------|
| Range HZ | 70.0 to 347.24 | 71.01 to 347.24 |
| Mean Frequency | 178.60 | 235.91 |
| Fundamental Frequency | 151.41 | 215.05 |
| Mean Period | 6.60 | 4.65 |
| Standard Deviation | 71.42 | 60.09 |
| Median Tone | 162.13 | 252.0 |
| RMS | 192.34 | 343.44 |
| Geometric Mean | 164.46 | 226.51 |
| | | |

The spectrograph ‘picture’ of the teacher’s voice tones are taken from the ‘expectation phase’ of class activity, in which the teachers are engaged in explaining the steps of the activity. As we can see, two of the findings are notable: The fundamental frequency of the teachers’ voices (fo) is notably different. The master teacher is working at a notably higher frequency level in explaining her expectations to the class; her median tone and mean frequency are also at a much higher level than the novice teacher. This higher pitch level will influence all of the above elements of intonation: prominence, key and termination, and tone. Qualities of voice with respect to emotionality, dominance, urgency, etc, might be said to be involved also with the higher levels of fundamental frequency. These are broad generalizations, and finally do not offer us a claim to objectivity with respect to how the social field of the classroom is illuminated by the qualities of voice, selection of prominence, key, and tone. Nevertheless, the isolation of frequency does offer a direction with respect to the promise of intonation as a field of study in teacher training.

Conclusion

In reviewing teaching trainer manuals, texts and critical theory about education, I have often found formulations such as this:

Teacher education as an aesthetic experience has its own rhythm, tone, resonance and drama. . . . an aesthetic way of teaching needs to start with the wonder about life, evolve with an absorbed engagement with the world, and reach consummation in transformative moments. The beauty, the wonder, and the power of the world in both its minute details and its vastness can only be captured by sensitive eyes and appreciated by an open heart. To cultivate this sensitivity and openness is both an aesthetic and intellectual response of teacher education (Jenlink 2005, p. 219)

While I agree entirely with the rhetorical content of this statement, I consider the aesthetic experience of teaching to be involved with the links between linguistic, kinesic, and aural modalities of communicative and learning process. Discourses about transformation are necessary, but concrete investigations of the properties of aesthetics are also necessary. The symbolic spaces wherein the maternal or paternal voice taught us to encounter the world, these spaces our learning subjectivities. Kristeva's chora, the nonverbal conscious core of Donald (2001), and Damasio's feeling-brain (2003) are re-initiated into the world through the teacher's voice: voice as socio-cultural concept as well as the literal, idiosyncratic, and emotional vibration. This study returns to the idea of voice as what constructs the aesthetic experience of the classroom.

The vibrations of the voice can be analysed in ways that suggest the physical qualities of intonation and frequency either expand or contract the social field (common ground) between a speaker and a hearer. As noted by Condon and Ogston, human beings display,

A consistent harmony between speech and body motion which suggests a highly integrated organism . . . The use of sound film and high-speed cameras in conjunction with the appropriate analyzing methods and instrumentations provides an observational microscope for the study of the perceiving . . . (Condon 1966, p. 345)

Since harmony between speech and body motion is vital to interrelational synchrony and self-synchrony, intonation and frequency are seen here as communicative values that can shape the social field of the classroom. The social and emotional values of vocal intonation—separate from semantic meaning—can be seen as a link between identity (chora) and the secondary,

semantic meanings of educational life (curriculum). While the way in which intonation and frequency are understood, hearer by hearer, is an immeasurable variable involving upbringing, socio-economic class, life experience, etc., exploring the systems of intonation as they have been developed by Halliday, Crystal, Quirk, Brazil, Coulthard and John and Brazil might become a playful way in which teachers gain awareness of our ability to synchronize or de-synchronize, to shrink or expand the common ground between ourselves and Other, i.e. “I have a space for my voice when you have a space for your voice”. Teaching then becomes not only about the object of curriculum, nor only about wonder, but about practicing engagement with the challenges of rhythm, about building vocabulary for the kinesic structures by which we try to harmonize with the patterns of the material world.

Sources of the Communicative Body

Chapter 7. Interfield 4, Part 2: Magic Lanterns and the Body in Science

The old center was mind knowing by means of an equipment of powers complete within itself and merely exercised upon an antecedent external material equally complete in itself. The new center is indefinite interactions taking place within a course of nature which is not fixed and complete but which is capable of direction to new and different results through the mediation of intentional operations. Neither self nor world, neither soul nor nature (in the sense of something isolated and finished in its solution) is the center any more than either earth or sun is the absolute center of a single universe and necessary frame of reference. There is a moving whole of interacting parts; a center merges wherever there is effort to change them in particular direction (Dewey 1929, p 129).

At this point, we can begin make a few observations with respect to how the communicative body has been understood through history. In the classical and Renaissance periods, gestures were largely seen as supporting language and oratory. Beginning with Descartes, in the early Enlightenment, certain kinds of social and emotional knowledge were provinces of the body; while philosophy theorizes reason, these knowledges become submerged in aesthetic representations in paintings and stagecraft. With Charles Bell, body-thought merges aesthetics with physiology, and what follows in The Enlightenment proper and the 19th century will seek universal meanings to associate with the face and hands. These universal meanings were ‘found’ in relation to theology (God’s alphabet), race and racial thinking, tribe, national character, emotions theory, and certain aspects of beauty and personal virtue. As we move into the 20th century, with David Efron’s influential study *Gesture and Environment* (1941), we find our first attempt to understand the meanings of the communicative body as culturally defined, with no connection to biological determinants or universal sources. Part of the reason for this change is the use of film as an observational tool.

Magic Lanterns

In Ingmar Bergman's film *Fanny and Alexander* (1982), there's a moment in the film when the two children escape from the world of adults to watch a magic lantern show in which knights and dragons meld in to one another. The setting would be Sweden, late in the 19th century, when the technology of lanterns had become sophisticated enough to have visually refined, moving images in the homes of the middle and upper classes. With the magic lantern show, it's unclear what Bergman wants us to see: whether the new imaging technology creates a way to see the real world or a way to turn the real world over to magic. Either way, the children are so transformed by the magic lantern that the line between dreams and reality is crossed, two worlds leak in to each other; it's unclear whether the fable about knights and dragons that they watch is determining the world of their family or the other way around.

Bergman's Autobiography *Magic Lanterns* (Bergman 1988) pays homage to the place these light boxes play in the arts. It is certainly interesting to note that the history of film and motion pictures roughly coincides with the evidence we have found for the communicative values of the human body: 'Motion pictures' first appear in the public record in Amsterdam, in 1671, three years after Le Brun's discourse on design. At that point, the lanterns themselves become candlelit boxes that allowed for successive images to fade or blend in to one another, giving the impression of living pictures. In the early 1840s, Henry Langdon Childe in London developed double, then triple lanterns capable of producing numerous moving affects, like billowing smoke and rain and snow (Rossell 1998). Despite the dangers of fires in theatres and private homes, the choreutoscope arrived in 1866, a device which burned images on to a wheel and represented a further refining of a system called the maltese cross, which were holes punched in the corners of images as a way to pull images through the lighted frames that presented images in motion. The year 1896 is seen as the watershed year for moving or living pictures; that is the year the phenakistoscope and the zoetrope represented persistence of vision machines, and private showings of living or moving pictures began to reshape the way the arts and culture represented human life (Rossell 1998). The phenakistoscope and the zoetrope were developments built upon the magic lantern shows, which had populated Europe's traveling shows and circuses since the 1840s, and precursors to the full-blown celluloid images in frames, lined by the maltese cross system. If Gutenberg had placed the visible instruction of culture within a text-based discourse, the image sphere, which had been a dominant mode of meaning-

making, visual codes, and social control during the church-dominated medieval period, was never far off.

Following on from the Victorian taxonomic and classificatory uses of visual media, photography, film and video have been used more recently to gather data for various other kinds of formalist analysis: proxemics, the study of personal spatial behavior (see the chapter by Pross in Hockings 1995), choreometrics and kinesics, the study of body 'style' and communication (see the chapter by Lomax in Hockings 1995) and conversation analysis (see Goodwin 1981). What many of these recent projects have in common . . . is an approach to mechanical visual recording media which tend to treat them as neutral technologies capable of objectively recording social behavior or visible 'givens'. Images are no more 'transparent' than written accounts and while film, video and photography do stand in an indexical relationship to that which they represent they are still representations of reality, not a direct encoding of it. As representations they are therefore subject to the influences of their social, cultural and historical contexts of production and consumption (Banks 2001).

The rise of film as a medium of social and cultural expression and observation allows us to witness and effectively 'slow down' and capture slivers of social movements in a way that will come to re-define a good many disciplines. And as filmic expression and observation rises, in the first part of the 20th century, the formal study of non-linguistic communication goes through a striking change. Following 19th century naturalism, facial expression (physiology) and gesture studies (pathognomy) will be submerged into the cloaks of psychology and anthropology, anatomy and communication studies until the phrase 'nonverbal communication' redefines the discipline in 1956. In the first part of the 20th century, the 'radical facts' sought by science to explain the world in rational truths looked to the origins of language and language itself for ways to read how the human systems perform in relation to the objective world. This keening of interest in language (the linguistic turn in philosophy) may also relate to the contradictions of colonialism and industrial capitalism, hegemonies through which the world's diverse cultures came in to more frequent and violent contact with one another. Whatever the reasons, this separation and specialization of the study of gesture and the face after the 19th century will continue into the 'postwar years' as well.

The rise of film as both entertainments and research tool in the first part of the 20th century influences the study of the communicative body. The human sciences continue to search for ways for understanding how human cultures communicate in their diverse ways. Following Darwin and Wundt, scientific study of facial expression and the language of the musculature of

the hands ‘disappears’. The ‘radical facts’ sought by science looked to language and film and the natural sciences to read how, say, the nervous system performs in relation to the objective world. Only three studies on gesture span the gap between the findings of Wundt and the bloom in studies on gesture and the body in the 1950s. One of those bridging studies, David Efron’s, shifts the debate away from universals and biological determinants in favor of seeing gesture as a temporal, culturally specific codes. In part, Efron’s study is a response to the Social Darwinism and racism that had defined some European anthropologies leading up to and including the Holocaust.

Western definitions of the categories of race, gender, and class were lifted in to place during the 18th century. David Bindman has recently argued that “the relationship between morality and aesthetics first emerges in the 18th century writings . . . bound together by the desire to promote the adoption of ‘politeness’” (Bindman 2002, p. 46). This conflation of morality and appearance -- the social values of politeness and virtue -- evolve into the public understandings of race, gender, and nation in the late 18th and 19th centuries; these cultural abstractions are bound, at least in part, by racial typing and the ‘universals’ of certain physiological categories. Within these years, literary, political, philosophical and scientific discourse had begun to articulate a view of life that emerges out of the power of print media to build knowledge on knowledge, and merge bodies of evidence into intellectual, social and cultural categories. These years are years when western European and American societies also develop a number of racial and sexual typologies, accentuating, drawing and re-drawing the map of human cultural and ethnic life around shared definitions for the concepts of nation, race, gender, and nature (Hartley 2001). One example of this ‘new consciousness’ might be Linnaeus’s *Systema Naturae* (1758) which categorizes the world according to four varieties of humanity on four continents in four corners of the earth, organized by the four elements of air, earth, fire and water. *Systema Naturae* is a decisive publication with regard to the rising tide of racial categories, stereotypes and features of national identity: “Towards the late eighteenth century it became possible to talk of European, African, American or Asiatic races, each of which might include ever-shifting mixtures of peoples . . .” (Bindman 2002, p. 13).

Britain, France and America were all engaged in the slave trade, and institutional racism began to be established based on inheritance of slavery and skin color. These institutions would fuel a full-blown racism in the 19th century, when racism becomes, as Peter Fryer sees is, a systematic

and consistent form of bias carried by print medias (Fryer 1984). With direct relation to the tradition of non-linguistic communication, these years also saw P. Camper and Blumenbach begin to measure heads and jaws such that the distance from Linnaeus's natural system to Galton's eugenics is a short one, marked by ink and paper bearing questionable evidence that ideas of beauty, moral nature and national identity are products of race (Bindman 2002). And the danger here is not only 'racial thinking': there are numerous, contemporary educationalist studies that promote a similar type of thinking by setting out to prove how teacher attractiveness and ethnicity and gender is related to high evaluations and 'positive learning environments', likeability and 'warmth'; many of these studies do so without exploring the historical and social contexts in which categories such as beauty and ethnicity are involved (Goffman 1979; Feldman 1992; Pattan 1999).

When do the human sciences first become 'aware' that the body is involved with temporal cultural and social values? One convincing place to start would be David Efron's *Gesture and Environment* (1941). The study was encouraged and prefaced by Franz Boas, then at Columbia University, and is largely built around a refutation that racial descent or biology are primary determinants on gesture and the values expressed by the body. The Social Darwinists of the third reich had attempted to explain bodily movements and the channels of meanings as the 'problem' of race. In particular, Hans Gunther, Fritz Lenz and Walter Berger all presented studies that suggested that Jewish racial identity is at the root of certain characteristics, and that this genetic or racial heritage can explain differences in tradition and lifeworld conditions. In response, Efron and Boas craft an argument that sees social environment as the highest variability on nonverbal communication, that social climate "should be taken into consideration much more carefully than has been done heretofore" (Efron 1941, p. ix). In particular, Efron is confronting Hans Gunther, one of the high priests of political anthropology of the third reich, who claimed (like Linnaeus) that mankind could be broken down in to four distinct races – the Nordic, the Western, the Easter, and the Dinaric. For Gunther, bodily characteristics, gesture, complexion, and certain spiritual characteristics were explainable by genetic descent. Coming during the horrors of the Third Reich, and at a time when the scale of the horrors of the camps were still not fully known, Efron's study is a welcome response to the long bias that sees gesture and facial expression and character a matter of genetic fate rather than a culturally produced method of meaning.



Gesture meaning "What can I do? I do not know." Drawing by Van Veen from Efron's *Gesture and Environment* (1941).

Efron is very much in keeping with his time (and with the urging of his professor, Franz Boas) that these matters have to be addressed empirically, to be 'evidence based' (a phrase we hear in contemporary educational circles). Efron responds with specifics, detailing jokes as well as using the work of the artist Stuyvesant Van Veen. One of the jokes Efron recounts is a story in which two Jews and an Englishman are sailing on a business trip together. The two Jews are talking at great length and with great physical movements about what to do if the boat were to sink. The Englishman moves away from the Jews for fear he would get hurt while 'listening' to them talk. At this point, the boat hits a rock and sinks. The Englishman struggles to shore, where he finds the two Jews who welcome him with great physical and exalted gestures. The Englishman asks how it is that they have survived the sinking, and the Jews reply, "We haven't the slightest idea, we just kept on talking in the water" (Efron 1941). This self-consciousness on the part of the Jews about their use of gesture is not only humorous, but points to the fact that this 'language' of the hands and face is not in any way unconscious or second nature. It is a learned and culturally active practice.



Wide gestural radius, meaning : make way. Drawing by Van Veen from Efron's *Gesture and Environment* (1941)

In addition to jokes and cultural narratives, Efron's methodology is to take 5000 feet of film and analyze it according to numerous categories, including tempo, vertical and frontal planes, head gestures and simultaneous gesturing. He concludes along the lines that gestures are primarily emblematic and emphatic. He identifies only six gestures that have symbolic qualities. Two examples of these symbolic gestures are:



Head gestures of Ghetto Jew. Drawing by Van Veen from Efron's *Gesture and Environment* (1941)



Palm on cheek or behind ear, meaning : Astonishment, bewilderment or rejection. Drawing by Van Veen from Efron's *Gesture and Environment*, (1948)

Efron believes that his film and the work he does with Van Veen shows that culture plays a high variance on the gestural language of his ghetto Jews and Southern Italians for three primary reasons:

- 1) The assimilated Jews and Italians do not understand the meanings of the 'Old World' types.
- 2) There are hybrid gestures that show that there is no fixed gesture and meaning.
- 3) The role of symbolism in the gestures changes dramatically from the Americanized populations, where gestures take on less symbolic meaning among the populations who have assimilated to the New World.

In addition to his filming and observations, Efron also compares his work with di Jorio's work on the Neapolitan Italians and their gestures, and compares the gestures of his Ghetto Jews with the assimilated Southern Italians in New York City. He concludes that the gestures of the two groups "a) appear to differ greatly from their respective traditional groups, and b) appear to resemble each other" (Efron 1941, p. 136). This statement continues Efron's healthy regard for humor, but also points to a rather complex conclusion for an empirical study. Where most empirical work would tend toward coming up with a single entity for study and conclusion, Efron leaves his findings open, admitting that the social and economic stratum of the individuals in the group appears to be the influential variant. Assimilation also appears to bring with it a reduction in gesture, indicating that movement in the groups will create movement in the use of gesture. All of which adds up to cultural influences playing a central role in the scope of gestural and facial language. In any case, the findings "do not bear out the contention that this form of behavior is determined by biological descent" (Efron 1941, p. 137).

What the Observed Became

The use of film allows David Efron to see social fields in a way in which he can observe the construction of social meanings and values as specific to a time and place. The mimetic, responsive nature of gestural engagement and interpretation effectively defines ‘culture’. Efron’s study might also be seen as emblematic of an implicit need of 20th century research communities to balkanize knowledge. For example, Darwin created theories that crossed many disciplines – zoology / biology / psychology / ornithology. The 20th century saw the rise of specific disciplines and sub-disciplines. And while it would be impossible to identify an exact moment when the social sciences broke away from the natural sciences, Efron’s study is a good indication that human sciences began to articulate unique differences between culture and biology by the midpoint in the 20th century.

The further study of non-linguistic communication in the 20th century will reflect these tensions in scientific discourses as well. If Efron’s study enables us to begin to take culture into account of the communicative body, a good deal of the research and ‘little sciences’ of Nonverbal Communication (NVC) will continue the 19th century’s quest for universals. This residual need for universal causes, an *ur-sprache* of body-thought, is still with us. A good deal of research and studies of the postwar years continued to apply 19th century principles to 20th century reality: many studies sought to categorize non-linguistic communication in such a way as to discover unifying principles and single standards for communication. Argyle and Dean’s Equilibrium Theory (1965), Mehrabian’s Immediacy Principle (1971), Ekman’s Universal Emotional Themes (1969) are representations of this search for universals.

These models turn up ways to “read” the non-linguistic channels as representative of message channels that are ‘universal’, rooted in social, biological, and ‘self-organizing’ principles. These studies can be seen as representations of the attempt to reify human communication and produce coherent intellectual discourses that reflect static social and conceptual changes (Jordanova 1999). This data was collected in classrooms, restaurants, on city streets, in workplaces, and massive data banks were constructed in attempts to find a sustaining theory for the way in which the body (gesture and face) and mind (language and symbol) interact in meaning making and acts of communication.

Along these axis, researchers in the field of Nonverbal Communication have moved in a relatively scientific way to show a dramatic range of static claims: For example: In 1979, it was found that personal space in school cafeteria queues became territories marked out according to race and gender. Willis, Carlson and Reeves found that children segregate themselves both racially and sexually in the lines while they wait for food. In three of the schools that were racially mixed, the children stood closer in the lower grades than in the higher grades; they stood closer to same-sex children than to other-sex children, but there was no racial difference. In three of the schools where all of the children were white, there was an increase in personal space across grades for all sex combinations except male to male. In two of the schools where all of the children were black, there was no significant increase in personal space across grades. The children in the white schools had greater queue distances than children in the black schools throughout the upper grades. In general, the results were similar to those obtained in other studies involving observation in natural settings and different from results obtained using simulated interaction (Willis 1979).

These findings are presented as true, and yet, what the researchers fail to investigate here is that the United States, in 1979, had endured, within a decade of the study, more than 1200 race riots. These riots occurred for a variety of reasons, including the fact that a far greater percentage of blacks than whites were coming back from Vietnam in Body Bags. Other riots occurred because of the drastic poverty some African American communities had endured for decades, negating the promise of The Great Society and Civil Rights Movements. While the 1970s brought a rising tide in economic welfare for most Americans, the promise of The New Society and Civil Rights Laws had not brought about a rising tide for African Americans. All of this might lend evidence to the claim that the lack of historical context in the Willis study renders the implication that primary school children are inherently racial in their thinking. There is no discussion of economic reality and home life. There is no discussion of the fact that the children being observed are hungry, and what hunger might have precipitated as far as behavior. In short, to suggest that there is a static standard of human behavior with regard to race and personal space among school children has to be seen as questionable science in need of rational and historical thought: Willis, Carlson and Reeves should be commended for their hard work, I am sure, but from the perspective of a researcher a quarter century later the study's design seems to fortify racist or Pavlovian ideas.

Eye Contact

Let's consider another example in which Postwar synchronic studies of non-linguistic modes of communication might be seen to continue to support the primitiveness of early 'racial thinking' with respect to nonverbal communication. Considered a seminal study in the postwar years, Argyle and Dean's study of eye contact is a good example. Through the method of a mechanistic, scientific, positivist language, the study postulates that eye-contact serves a number of 'universal' functions. Argyle and Dean are seen as the first to offer a theoretical approach to nonverbal communication, that is, they propose The Equilibrium Theory as it defines an appropriate or comfortable level of intimacy between individuals manifested in terms of involvement behaviors such as distance and eye contact.

The critical predication of the theory is, once an appropriate level has been upset, variations will occur to restore the equilibrium: for example, if someone were to suddenly sit closer, the other person might react with decreased eye contact in an effort to bring the equilibrium back to the interaction . . . (Argyle 1965, p. 4)

While opening with the statement that eye contact is necessary for affiliation, the authors also make note that "no one theory can explain" the main functions of eye-contact. That said, the authors make a number of categories for why eye contact follows certain observable patterns:

- 1) Information seeking. "Speech and paralinguistic material convey a great deal, but it is possible to get a lot more by careful inspection of the other's face."
- 2) Signaling that the channel is open.
- 3) Concealment and exhibitionism: The authors suggest that in some cases individuals lack adequate feeling of self-regard and ego identity, and so have a desire, through eye contact, to be loved and confirmed.
- 4) Establishment and recognition of social relationship. Here the authors suggest that a relationship can include sexual attraction, friendship, hate, dominance and /or submission: Here the nouns used seem to provide cover for the varieties of emotional experience underlying the eye-contact, desire, kindness, disgust, etc.
- 5) Affiliative Conflict Theory:
 - A) Need for contact flows along an equilibrium of avoidance and attraction. "Avoidance components include the fear of being seen, the fear of revealing inner states, and the fear of being seen, the fear of seeing rejecting responses.
 - B) These equilibrium levels will respond to issues of physical closeness, intimacy of conversation amount of smiling.
 - C) Variation in physical distances (Argyle 1965, p. 4).

In their summary, the authors suggest that eye contact serves numerous functions that include feedback during social interaction, together with that of signaling that the channel is open. Eye contact is a component of intimacy and equivalent to physical proximity. In this regard subject will adjust according to approach and avoidance. Greater intimacy of topic lead to less eye contact.

We are now forty years on from Argyle and Dean's study, a study impressive in its scope and methods. At the same time, a 'scientific, positivist investigation of the eyes and eye contact comes with difficulties. As one example among many, indigenous people in Australia do not use eye contact in the way, say, a person from New York City uses eye contact. For a person schooled in the cultural institutions of the modern, Western world, the eyes and the face do constitute an associative communicative system that includes social attunement and systems of equivalents. There are complex social cues involving the face as to when it is a person's turn to speak, who starts the interchange, which sets the agenda. This is not the case in many cultures. For example, aboriginal conversation happens, at times, with two people facing in the same direction, sitting on the earth. There may be no eye contact at all. And there may be silence as well. Aboriginals may also feel that the earth is involved in the conversation as well. There is a term for this type of communication – *Dadirri* -- which might roughly be translated as 'deep listening'. The combination of sitting, looking in the same direction, contacting with the earth, silence, and few words constitute a way of exchange that is perhaps more subtle and with wider, tonal ranges than the type of communication this study is engaged in investigating. There are reports of aboriginal people, when in a classroom in which the face so dominantly defines authority and surrounds the contours of exchange, "they hate it" (Fieldnotes 2006). The way in which aboriginals use silence and deep listening (*dadirri*) points toward the fact that exceptions to rules, rather than universals – peculiarities rather than norms – are the lifeblood of an approach to the experiences of body-thought as it is in our times. As Asimov said, "The important words in science are not 'eureka', but 'that's funny'". Popper's falsification theory applies here as well.

In that respect, we might suggest that a good deal of postwar, Nonverbal Communication research might be seen as being both right and wrong: On one hand, the 'little sciences' of Nonverbal Communication moved academic and knowledge institutions away from the idea that language was a beautiful mystery that explained subjectivity, identity and consciousness all in

one go. Language is a cognitive ability that brings symbolic interactionism to human culture, is the engine driving the compilation of knowledge in a way that has been said to drive cultural evolution (Chomsky 1968; Diamond 1997). At the same time, research within many fields began to show that the notion that language sits alone atop human abilities is naïve; in fact, as this study investigates, language is one of the parcellated activities of the human brain; language is a cultural system that interacts with the conscious, sensate core of human subjectivity; it constructs an order of stabilized meanings; however, the neurological architectures of emotionality and sociality also have (nonverbal) coding systems and these are engaged through episodic languages of the face and hands and body talk.

This study's questions about learning, sociality, emotionality, and non-linguistic channels of messaging need to overcome what Merlin Donald would call the commonplace or commonsensical. By acknowledging 'exceptions', we might anticipate, or even bring about a social future that includes acceptance and tolerance of accident, chaos, changeability and dynamism, whether in the boardroom, the operating room, or the classroom. Fifty or more some odd years on from these texts and schemas and experiments that re-established the 'new' knowledge of Nonverbal Communication, contemporary communication theory views non-linguistic signs through numerous lenses: semiotics, literacy studies, critical theory, linguistics, multiliteracies, and gender studies, all of these discourse have also built on the new knowledge that human communication involves talking-writing-moving-symboling-seeing-listening-miming-understanding (Kress 2000; Gee 2001).

The acceptance of body-thought as a modality of human social interaction— as the speaking hand, as facial expression, as posture and movement – is now posited by a wide body of evidence in philosophy, aesthetics, empiricism, naturalism, and educational theory. We view the communicative body in ways that a) Support language, b) Replace language, c) Express emotions, d) Express interpersonal attitudes, e) Conveys information about a person's inner life, f) Elaborates human ceremony and ritual, g) Can be used for propaganda, in politics and demonstrations, and h) Is central to artistic expression (Argyle 1990). However, even if this study adds evidence for the above generalizations, this would only have laid the ground work for research into how these modalities are used and misused in the classroom itself with regard to the creation of nurturing, inclusive social spaces. In that regard, I am slightly pessimistic. A good many solutions and studies reviewed show that most public attention to teacher education

widely skirts away from any practical consideration of the materiality of communication and the nonverbal basis for concepts such as belonging and care and empathy. Some studies engage in discussions of race, class and gender, as a way to suggest we might 'level the field' (Ginsburg 1988). Limited discourse is available that addresses directly the consideration of how non-linguistic factors create the social values by which higher orders of learning can function. Examples of public findings, beginning essentially with 'A Nation at Risk' in 1983, show that needs for teachers and their practices break out along the lines of:

- 1) Develop more and earlier centralized testing to raise standards, i.e. to become more selective in screening who will and will not become a teacher;
- 2) Extend the time required in training before becoming a teacher;
- 3) Further stratify the educational workforce by creating a formal hierarchy of teacher positions and tie those positions to different kinds and amounts of teacher preparation;
- 4) Make the education of teachers intellectually, or at least academically, more challenging;
- 5) Restructure school organizations so that teachers have more autonomy and receive greater remuneration.
- 6) Increase classroom technology as central to learning

Other studies reiterate these calls and add a focus on class size, student – teacher ratios, retirement programs and the like. Most educational studies continue to ignore or under-recognize what Montessori, Piaget, Dewey, Vygotsky, Grumet, Pinar, Noddings, Leavitt, and many others have demonstrated well: knowledge is a social process. The link between how both student and teacher understand these interrelational activities, how certain 'privileged knowledges' are rooted in non-linguistic modes of signaling and comprehending, suggests that one way to move forward – in addition to reflective practice -- would be to integrate new forms of knowing into reflexive practice and self-study. Whatever the measure we use, this study finds in contemporary classrooms many non-linguistic factors at work already, though our impoverished vocabulary for defining what might enhance our lives hides behind phrases like 'a good teacher'.

As we consider the sciences of 20th century, this study has found historical, scientific, and observational evidence to support the contention that non-linguistic patterning of experience is an active, parallel system within the operation of social communication. This system of

communicative acts can play a vital role in establishing certain social codes surrounding concepts of the family of emotions, of territory, of loyalty, of sex selection, of care, group (family) cohesion. Learning is not engaged primarily with the technologies of the neo-cortex, not only with language and numbers, but also takes place in the somatic and kinetic regions of the brain and neuronal architectures of the middle and lower brains (Damasio's 'feeling brain'); these areas integrate body-thought and non-linguistic perception as social and emotional attitudes with the higher orders of human reason (syntax). Understanding the social field of the classroom as a place of intersubjectivity and collaborative construction of social values and cognitive meanings, the learner and teacher move toward a world where the learning process is both word and gesture.

Since one of the goals of this study is to provide a new orientation for a better understanding of how social values and the experience of connection are implicitly and explicitly informed by the communicative body, these tensions and ambivalences should not be ignored. In fact, teachers and students remain susceptible to some of the dangers of labeling in the conflation of, for example, 'beauty' with 'virtue'. These cultural determinants and cultural rituals are often influential in observer perceptions and the formation of expectations (Mehrabian 1972; Knapp and Hall 2001). Escaping from the (primitive) distortion of abstractions such as intelligence, meaning, and expectation linked to the body might be central to the future of teaching practice; these changes might also involve research communities escaping the residual scientific practice of searching for single explanations and universal causes.

Sources of the Communicative Body

Chapter 7. Interfield 4, Animal Communication as Evidence of Sustaining Social Values

So Diderot and Derrida disagree about the relationship between language and the “real world”. Then it would appear important to ask which of their models – the enlightenment-dialectical or the Postmodernist-deconstructionist – is right. Could they both be right? But this would seem problematic, since the two paradigms seem to cancel each other out. How, then, should we proceed? (Terdiman 2005, p. 195).

Research workers have now recreated most aspects of human verbal communication in animals and machines, so that perhaps mankind’s only remaining boast is that we thought of it first! (Brazil 1982, p. 12)

Animal communication and the rhetoric of nature

Within the past years, during the years in which the Chomskyan Revolution has flared and faded, and some ‘little sciences’ of nonverbal communication have turned into pseudo-intellectual fads such as emotional intelligence and neuro-linguistic programming, human sciences in the civilization of productivity have also begun to study communicative systems in nature. This statement is a little disingenuous when we think of the Hopi Indians, who had a very clear way of reading animal and natural voices. Nevertheless, natural and social sciences have begun to hear the voices of nature. Interestingly, the quietness of nuclear submarine technology allowed us to “discover” that humpback whales were singing. We now don’t get through a week without some popular, scientific study claiming that whales and dolphins or birds and dogs are engaged in dynamic communicative systems that reflect our own. An important distinction here is that studies of animal communication are not knowledge creation, which language appears to be engaged in, but knowledge discovery. In understanding animal communication, we are not creating new fields or new modes in this endeavor, but uncovering what has existed for, in some cases, millions of years. For the purpose of this study, animal communication presents us with a key question: might we interrogate animal communication as to whether or not social groups can be maintained without words?

One of the reasons we might not have been listening to other voices in the natural world is simply pragmatic. Animals have not been talking to us, and we are not talking to them. For most of human history, animal communication has been true to Wittgenstein's *obiter dictum*, if a lion could talk, "we would not know what he or she was saying (Wittgenstein and Russell 1922, p. 196). One of the few instances of animals communicating with humans is with honey guides. There are eleven types of honey guide birds, primarily in Africa, but there are some in Asia as well, and they are one of the few animals that can digest beeswax. Getting beeswax is fraught with danger, and the honey guide has come up with an unusual procedure. When it locates a hive, the bird then locates one of two honey lovers—a ratel (a kind of badger) or a human being. The bird then makes a loud display of chattering, flies off a distance closer to the hive; waits and chatters, waits and chatters, and so on. The honey guide in this way alerts a ratel or a human being to become aware of the hive. Once it has made the ratel or the human being aware of the hive, the honey guide then waits for us to be done with the honey and the bird gets the wax (Morton and Page 1992). For the most part, other than honey guides, communicative systems on earth have existed outside the range of human sounds, and only recently certain technologies and concerns about the limits of our environment have allowed us to begin to listen.

A good example of how technology has allowed us to consider other modes of communication is the infrasound language of elephants. Katherine Payne, a biologist, who had been studying humpback whales, turned her attention to elephants in the 90s. At the time, she shared with most of us the image of the elephant kind of locked away in its intelligence able to trumpet every so often when it found something good to eat or saw the lion approaching. To our ears, elephants use a variety of rumbles, trumpeting, shrieks, barks, snorts, and growls. But Payne and other biologists began to notice that elephants that were even miles apart made "synchronous movements, such as simultaneously changing directions or simultaneously pricking up their ears as if listening." (Morton and Page 1992, p. 46). In the elephant house at the Portland Zoo, she became aware that occasionally the house itself would kind of tremble, in a kind of sub-acoustic trembling. While Payne could not actually hear the elephants, she returned with some equipment that could, and discovered that elephant communication included a complex array of infrasonic signals, a frequency lower than the human ear can hear, that could travel up to two and a half miles and still be quite distinct as to the message conveyed.



Above: Jo T laughing during play with Lady (Wagner 2003).

Animal networks of communication are not generative in the way language is. They exist within a fixed range of actions—a communicative ecology of social support and decision making for the most part involving territory, recreation, food sources, with some more social animals engaging in judicial rhetoric and music (Kennedy 1998). When we view these systems, we are viewing what might be called a mutually creative communicative act: These social events are predicated on a communicative—not creative—dynamic. Receiver A gets a message from Sender B. In an authentic communicative act, the sender is only verified by the receiver, with the end result being mutual understanding. The receiver of the information is in as crucial a role as the sender. It is the role of the receiver I would like to talk about. To do so, I want to investigate the realm of communicative act prior to language.

Compared to language, which seemingly has an infinite, creative range, the social matrix of animal communication is a limited range of messages—confined, let us say, to procreation, territory, grooming. At its most social, some animal communication involves aspects of judicial rhetoric and music. It is also a system by which the senses give and receive information about the environment. Often times, this nonverbal communication involves reactive, emotional

responses based on issues of approach/avoid, fight/flight, etc. And since we share a part of the limbic brain—what Damasio calls ‘the feeling brain’ —with a good part of the animal kingdom, some theorists such as Darwin and Paul Ekman suggest these are responses we share with the animal kingdom, are “universal” in life on earth. Again, this study views the idea of universals to inhibit clear understanding of sociality and the non-linguistic core of consciousness. Nevertheless, we can suggest that this fascination with what human communication shares with the rest of nature comes out of the fact that human language seems to pose an evolutionary dilemma, one well-expressed by Elizabeth Bates,

The process of evolution is conservative, like the snail who we know is moving, but whose movement we can't quite make out. Species take millions of years to develop ways of living with light and heat, gravity, space, cause and effect and the boundaries of events. The dilemma comes from the fact that human language is a relative newcomer to natural selection, appearing perhaps 300,000 years ago or less. How did such a complex and exquisite and dominant system of communication evolve so rapidly? (Krasnegor 1991, p. 29).

Words change us, change our thoughts, can turn us red in the face or green with envy. Words can elevate, sooth, comfort, incite. Language changes our chemistry because language is comprised, at least in part, of chemical changes in the brain. Reason then, technology, the metaphors of sciences and experiments of the humanities—in fact all of the categories of human thought—can be seen as part of a process by which Lifelanguage moves and defines us, changes us as we change it. We saw these changes quite vividly with our blind students and the well-documented example of Helen Keller: The sensate, nonverbal core of consciousness can sustain personhood, play, love, etc. The question remaining before us is, can social groups be sustained without language? If it can be shown that certain social features such as caring, group consciousness, belonging, etc, can be sustained without words, we might make some generalizations with regard to how the communicative body participates in learning and teaching. Toward this end, I conducted a brief study of a group of Bonobo chimpanzees and considered the literature involved with this cousin to the human being.



Above: Elikia climbs on her mother Lucy's back. Bonobos infant are in constant physical contact with the mother for the first two years of life (Wagner 2003)

On The Bonobo:

The name *Pan paniscus* joined the descent of animals in this unlikely way, which is not so much an irony of history as poetic justice. The word Bonobo is a typo. It is a misspelling of a Congolese village that once shipped one of these beautiful creatures to Europe. Instead of Bolobo, the name of the town, the Europeans who received the creature, in Belgium, imagined the creature in the box was called a Bonobo (Thompson 1997). And so a word was born, and also a dilemma.

We have long had to live with the evolutionary scenarios that man is the killer ape, the aggressor and hunter, whose prowess becomes bravery in warfare, with murderous intent the norm between races and nations. Our modern, recorded history has plenty of evidence for this. Yet one of our closest, genetic relative in the animal kingdom is a pleasure-loving, vegetarian, an animal who has not been observed to engage in killing. We can further illustrate this conundrum by looking at Conrad's *Heart of Darkness* (1902). Bonobos are the primates that live in the Congo River system where the broken and weary Marlow sails in Conrad's dark stare

into the human 'soul'. As we know, Marlow finds the deluded, evil genius of Kurtz and recognizes in him the darkness of the human heart. By the thematic concerns of imaginative literature, we face the darkness within. In reality, had Conrad actually explored the Congo, he might have found our closet relative, a natural comic and lover, having lived more than likely unmoved for three to five million years in an Edenic environment and in a kind of harmony with their own kind and with nature. (Along these literary lines is another interesting note, one that Conrad himself might have liked, Bonobos are good at making weavings that create nests or sleeping platforms, in the trees above the forest floor. As far back as we can trace it, the word 'text' means 'weave'.)

Bonobos escaped notice enough to be called *The Forgotten Ape*, by Franz de Waal (De Waal 1997). Why has the Bonobo escaped notice for so long—why they might be called “The Forgotten Ape”? One of their behaviours that challenges the Puritanical bias in human society is that that Bonobo troupes are female led. Females are given preference over food; the lineage of the troupe is determined by the ranking females; males do not know their offspring; females choose their mates; and the females, by and large, resolve differences within the troupe. A second Bonobo behaviour that challenges our human vanity is Bonobo sexuality. We could speculate about whether the matriarchal structure of Bonobo society and their gregarious nature has anything to do with their being a relatively war-less society. After all, violence, incest, rape, and murder are generally not observed in Bonobo communities. This raises questions as to why someone like Franz de Waal would write, “This anthropoid is indeed so close to us that some scientists consider it the best extant model of the last common ancestor of humans and apes, thought to have lived about five million years ago” (de Waal p. 128).

A fourth irony about the Bonobos' existence, along with our study of their social groups, which began in earnest in the 1970s, is that they are presently caught in the crossfire of a post-colonial, civil war in the Congo. Over the last decade, they have been slaughtered in the thousands, and the status of the wild population is unclear at this writing. Beginning in 1996, most of the researchers pulled out of the Congo and have yet to go back to assess the damages, but we do know that many of the research stations in Wamba and Lukuru have been looted and in some cases bombed.



Above: Jimmy and Unga exchange a glance while ‘making love’ (Wagner 2004)

Bonobos at the Columbus Zoo

The nature of the Bonobo and the threat it faces has resulted in a species survival plan being enacted by both North American and European zoological societies. One of the institutions having some success in this program is the Columbus Zoo and Aquarium, which occupies a huge tract along the Olentangy River north of Columbus, Ohio. I first met the troupe of Bonobos at the Columbus Zoo in March of 2004. At Columbus there are currently sixteen Bonobos, with one on the way. And at present in the North American SSP, there are seventy-one Bonobos, thirty-four males and thirty-seven females. So with the sixteen at the Columbus Zoo, I was observing close to twenty-five percent of the Bonobos in captivity in North America.

The Columbus troupe is led by Susie, the ranking female, who is a twenty-two year old, wild-born Bonobo who arrived in Columbus in 1990. The four founding members of the Columbus Group—Susie, Jimmy, Toby and Lady—came from the Limburgse Zoo in Zwartberg, Belgium in 1990. They were all wild-born, and unrelated to all other Bonobos in captivity at the time they arrived in Columbus. When dealing with the very small numbers, like the few Bonobos

held captive in the early 90s, it is critical to the future of the cooperative program to maximize the number of potential founders of the SSP for Bonobos. As an example, with the birth of a baby Bonobo in December 1992, the number of effective founders in the North American program increased by twenty-five percent (Rose 2002). In the twelve years since the founding of this program, the number of founders in both Europe and the United States has grown from eighteen to thirty-three, and so there is hope for the population in captivity, if we don't know what is going on in the wild.

Method

I spent a total of eight days at a house made available to researchers in Powell, Ohio, where I had access to the zoo and the zoo librarian, Sheila Campbell, and, to a limited extent, the Bonobo keepers. My first stay was in March 2004, the second coming in June 2004. I returned again in December 2004. I spent approximately four hours a day in front of the Bonobo cage, videotaping, reading, taking notes, and consulting with the keepers and at times with Monique Fortunato, another Bonobo researcher. The Bonobos at the Columbus Zoo live in two, forty-foot by twenty-foot greenhouse-like indoor exhibits. The front and ceiling are glass walls, and the back of the greenhouse, which opens into their private area, is a chain link fence. The glass wall opens out for viewing by the public. The areas are marked by ropes and large beams that resemble what an American might call a jungle gym. In back of this enclosed area, there is a one-acre wooded lot where the Bonobos also can play for a good part of the year, four months or so, when the weather is warm.

During my stays, I began to take five-minute samples of individual Bonobos. For example, I might focus a camera for five minutes on Mambo or Jo T, making notes on what type of communication they were using and what they were communicating about. I also took a limited number of samples, writing and observing by eye, of the entire group and how the group was communicating. For the most part, I recorded the five-minute samples with a video camera, and once I had taken my samples, I broke these down into two categories of five subheadings each. The first category of communicative action is **Type of Communication**, in which I record the way in which the individual communicates. The second category is: **Communication: What About**, in which I record what these Bonobos were communicating about. The following

represents the best eighteen, five-minute samples I had on videotape and include two group samples as well.

Findings

These findings need to be compared and contrasted with study in the wild. At present, that is not a safe thing to do, as the Congo is coming back from a post-colonial civil war and the research areas of the Bonobo are precarious. We might expect that in the wild, the Bonobos would be communicating a bit more or a lot more about territory and food than I have found here. The fact that the category of play is the largest one among the females seems to indicate the presence of JO T, a two year old female, the focus of some of my research. But then, it is not clear. Until we again have a chance to study in the wild, or a chance to work with another troupe of Bonobos in another zoo setting, these will be conclusion only about a troupe of Bonobos in the Columbus Zoo.

It is also interesting to note that evidence suggests the matriarchal nature of the Bonobos' society is changeable. Don Winstel at the Columbus Zoo has told me he has heard some researchers express confidence that there are multiple Bonobo "cultures" in the wild, of an eastern and western variety. One behavioural difference noted between groups is that, while the females are dominant in both, a fully adult, socially adept male appears to have a much greater degree of responsibility for group activities than what we have noted the group I studied in Columbus. So it has to be added, with emphasis, that I was viewing a group of Bonobos, some wild-born and some zoo born, who could be said to have their own culture, and study of another group in another zoo, or study in the wild, might very well reveal very different behaviours and findings. Nonetheless, the wild-born Bonobos in the zoo, and the zoo-born Bonobos do give us an archaic model with which to consider the concept of communicative synapomorphy, the characters and functions of social communication shared between Bonobos, human beings, and other social animals.

Type of Communication:

Bonobo communication takes one of four types: touching, looking, vocalizing, and spatial. I include, for the sake of accurate study, a category I call 'no discernible communication', as sometimes the Bonobo can simply sit by itself in a seeming, non-communicative stance .

Touching: Bonobos communicate by touch more than any other manner. For the first two years of life, a newborn will be in almost constant, physical contact with the mother. From two to four years, as the young begin to explore their world, they move away from the mother, but remain in spatial contact. Other than newborns in the first four years of life, Bonobos communicate through touch with sexual activity, playing chase, and grooming.

Looking: This category includes most visual communication; that is facial and hand gestures, aggressive stares, looks of play and watchfulness. It does include some sexual activity, as some Bonobo sex, one of the few animals other than humans who engage in face to face sexual contact. I have also seen a male Bonobo present to the group by being erect and just looking, watching, until another joins with him in pleasure.

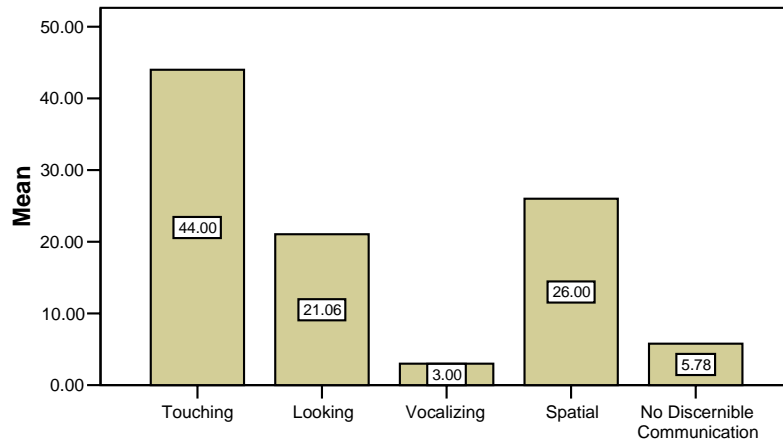
Vocalizing: A good indication of the differences between human and Bonobos are the way of vocalizations. Bonobos rarely vocalize, and it takes the form of either high yelps or whoops, usually at the approach of a keeper or when food is on the agenda. There are other sounds, low grade, that they made when laughing, but the high yelps, a call of excitement and warning, is the primary one. In my observations, Bonobos mostly engaged in vocalizations concerning territory, when a keeper comes to the back of the cage, or when a zoo-goer comes too close to the glass. They also vocalize about food.

Spatial: By spatial communication, I mean being in physical relation to an individual or group, in proximity. Sometimes this will include chemical communication that may not be clearly discernible to the human eye or nose. These are what we might call embedded acts of communication, as when two Bonobos walk together or play together at a distance.

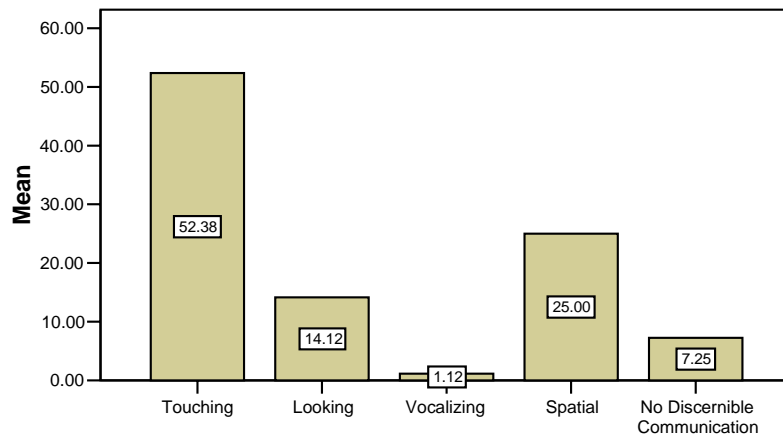
No Discernible Communication: It is rare, but particularly among the males there are stretches of time when there is no discernible communication between an individual and the rest of the group.

Type of Communication: Findings as percentage of time

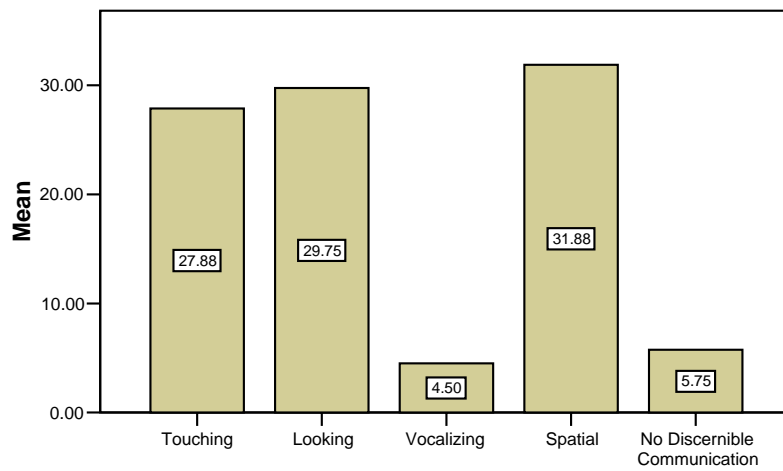
Group Aggregate:



Female Aggregate:



Male Aggregate:



2. Communication: What About:

The second category I am using here **Communication: What About**, I also broke down into five subheadings. And here we see some of the essential features and functions of communication, not only in humans and Bonobos, but across the continuum of life. Among

social animals, communication is primarily about establishing territory, finding food, finding a mate, deterring enemies, maintaining the social hierarchy, and creating and maintaining relationships within the group. I call these categories: territory, food, group, play, and care. (I do want to note that the notorious sexual behaviour that Bonobos exhibit is not an exclusive type of communication; that is, sex is used as a communicative gesture in relation to food, social hierarchy, territory, and play. So while this is a mainstay of communicative action among the Bonobo troupe, it falls under one of these other categories.)

Territory: While in the zoo setting, the idea of communicative action regarding territory may be a stretch, but the Bonobos in Columbus often vocalize when a keeper comes near their pen. They also will bang the front glass of their pen when a zoo-goer steps past the barrier up front. I also have seen some males and females establish territory within their cells, at times, when I was videotaping, one might turn their back to my camera. I call these actions ‘involving communication about territory’. (We could expect that these percentages would be greatly changed by a study of Bonobos in the wild.)

Food: The Bonobos are passionate about food, and it is about food that they vocalize most often. Since feedings are timed and carefully administered in the zoo setting, these finds would also more than likely be changed by observations in the wild.

Group: This is a category of communication in which I am observing Bonobos involved in communicative activity that involves the social structure of the group. This may include some judicial action, as I have seen Bonobos look to each other, primarily the troupe’s ranking female, for a touch or a look. It also involves some sexual play and choice of partners for sexual play.

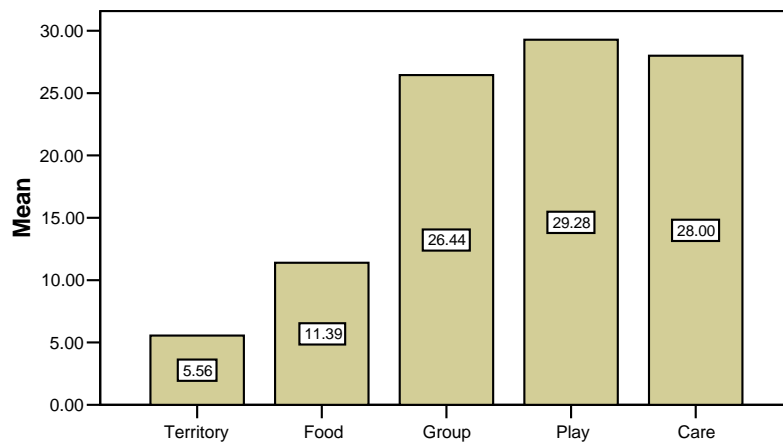
Play: Bonobos, particularly the juveniles, play a good deal. Their main activity in captivity is a kind of chase game, where one might seize something like a handful of hay or a banana peel, and pretend to shield something precious, engaging another in a game of chase. Play also involves swinging, running, and sex.

Care: Bonobos spend a good deal of time grooming. Some of my samples involved individuals who were grooming for the entire five minutes of the sample. I also judged some limited sexual

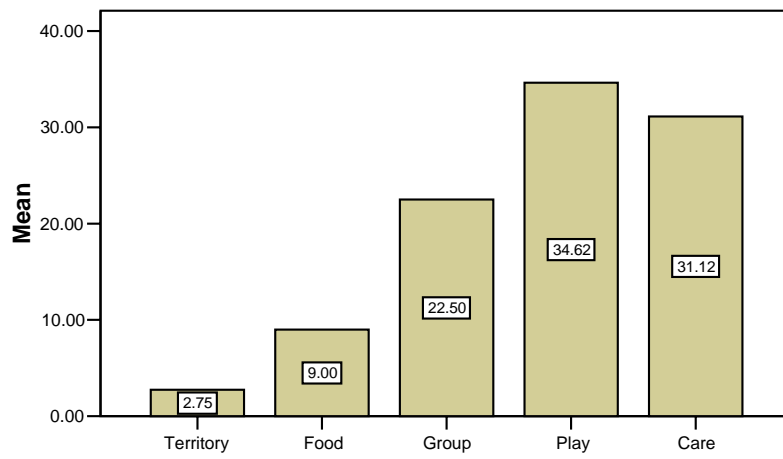
behaviour to be about care, as sometimes two females might be grooming, and it might lead to some sexual orality. (Again, sex is used to relieve tension, but also is used to reinforce pleasure and some of the group's social structure.)

Communication: What About: Findings as Percentage of Time

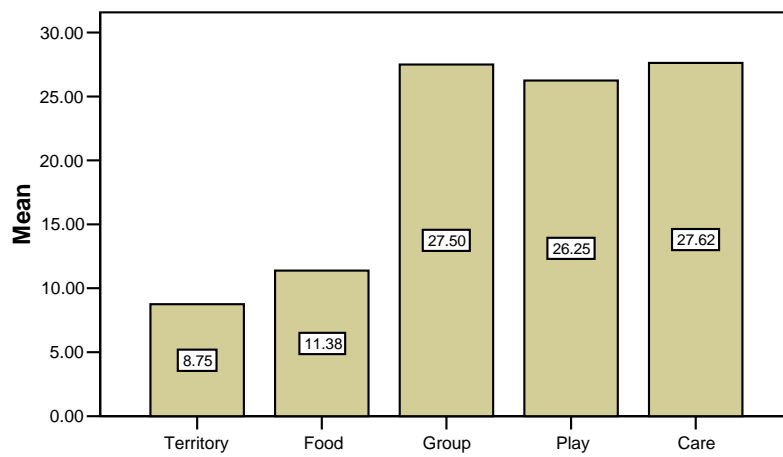
Group Total:



Female Aggregate:



Male Aggregate:





Above: Mambo and one of the juveniles grooming (Wagner 2004).

The First Philosophical Act

The idea that language defines cognition (Chomsky's Independence Hypothesis), as well as Structuralism and Post-Structuralism's notions that language creates the world, inhibit the understanding of the phenomenon of social values, and the deep ecology shared by human and animal communication. Understanding the categories of meaning of systems of social communication outside of language has implications for human endeavors in a number of fields. For example, educators, looking to create social environments where learning takes place in earnest, might understand communication as an ensemble of linguistic acts and interrelational, nonverbal signaling events. If sociality can be sustained by gesture alone, if the social group is a multimodal process drawing on image, action and linguistic resources, and if these modalities illustrate social meanings involving, for instance, territory, play, and care, the communicative ensemble of gesture and spatial relations and facial expression can not only enhance but can create environments where complex social arrangements such as belonging, acceptance, caring,

and play can be sustained without and/or alongside the ambiguity that comes with a predominance of linguistic signs.

We are living through an era when the languages of science and technology have come up with dazzling projects and ‘miraculous’ experiments, and we have to acknowledge that these discourses now have primacy in the world of ideas in part because of displays of power, the fireworks of reason so to speak. Certain aspects of science and the technologies of production have assumed supremacy in human discourses at least in part because of these displays of power. To ignore the environmental crises we are a living part of is, in some ways, to damn our children and future generations. The study of animal communication is one way we might address the task of what Merleau-Ponty called ‘the first philosophical act’:

The first philosophical act would appear to be to return to the world of actual experience which is prior to the objective world, since it is in it that we shall be able to . . . restore to things their concrete physiognomy, to organize their individual ways of dealing with the world, and to subjectivity its inherence in history. Our task will be, moreover, to rediscover . . . the layer of living experience through which other people and things are first given to us . . . To reawaken perception and foil its trick of allowing us to forget it as a fact and as perception in the interest of the object which it presents to us and of the rational tradition to which it gives rise (Merleau-Ponty 1962, p. 66)

Language and textuality privileges seeing a static world and submerge the perceiving body, its fluidity and dynamism, in connection to the external, natural world. To begin to reconstruct social values, we might begin to teach that language’s inventions—the book, the internet, the poem, the theory, the formula—are tools, technological tools of meaning, all to varying degrees a part of us and a part of a natural dynamic, a wider ecology. This wider ecology of mind, nature, and history might afford us a view of restoring ideas of caring within learning processes, as well as move toward the goal of re-considering how we construct social life through the non-linguistic channels and body-thought.

Sources of the Communicative Body

Chapter 7. Interfield 4:Part 4: Vignette: Teaching to the Chora

It does not seem unreasonable to suppose that all signifying behavior retains some connection with, and is to some degree informed by, such primal linguistic and social determination in materiality, in a world of real bodies . . . So we look for bodies behind language (Terdiman 2005, p. 89)

All gestures are legitimate and get a result: the question is: is the result the result you want? (Eichenberger 1994)



Above: Andre Thomas, conducting a choral group (Eichenberger 1994)

Theoretical Problem:

Let's imagine a young male student who is sociable and bright. He has done very well in his primary grades. He shows coordination, say, in tennis or soccer or dance, and has received special effort awards from his teachers for helping and reading. His home life is positive and supportive. And while it's impossible to tell what the student's aptitude will be for in academic or vocational pursuits, his parents are happy about whatever accidents have fostered their child's development.

Suddenly he begins to cry before school. It happens a few mornings. At first, his parent does not make the association with school. But one day the parent takes the child to school and the teacher tells her, "We have to talk about your son". Meetings are arranged and to the great surprise of the parent, the teacher tells the parent their child is unable to concentrate, cannot finish work in class, and is falling behind. The teacher believes the child perhaps has self-esteem problems and even indicates, contrary to the parent's intuitive knowledge, that the child might not have an aptitude for school work, particularly reading. The parent is surprised to the point of anger. She grows suspicious of the teacher and wants confirmation. A week later, the parent observes a class period, ostensibly to help distribute class books, and sees for him or herself. What the teacher has said is true! An otherwise bright and sociable child is unable to concentrate and cannot finish work! They are easily distracted, looking about, following any noise! At the end of an activity, the child's work is not even half finished!

What is happening here? At home the child continues to thrive. He does not have any explicit complaints about the teacher, but at school there are suddenly problems. In reflection, the parent realizes that during their observation of class, when the student struggled, the teacher had become very solicitous of their child, kneeling down beside the child, cajoling and being encouraging, but the child is simply unable to work to their ability at the request of this teacher. The parent begins to realize that, whatever else is happening with their child, the boy is 'freezing up' around this teacher. The boy cannot sufficiently empathize with the teacher's requests and so has begun to experience problems with concentration and focus to the point of tearful frustration. It is not unreasonable to assume that the teacher – student relationship is fraught and the student has frozen up and is unable to respond to this teacher in an empathic way. It is not unreasonable to suggest, given the evidence we have so far, that the primary,

kinesic relationship between this student and this teacher is implicitly disordered. However, up to this point in time, we have no model for evidencing that this might be the case. In this vignette, I consider one model that allows us to ‘see’ the significant, non-linguistic empathic channels between a teacher and a class.

Background

According to Jonathan H. Turner in *The Evolution of Emotions; The Nonverbal Basis of Human Social Organization* (1997),

Studies of interaction document that nonverbal gestures – body positioning, body countenance, facial expressions, hand movements and the like – are as important to effective cooperation as spoken words, indicating that interaction is a highly complex and subtle set of processes (Turner 1997, p. 211)

From the perspective of the sociologist or evolutionary psychologist, these nonverbal expressions of emotions would enable us to attune ourselves to each other without the waste of resources expended on words and the frequent misunderstandings words convey. From the perspective of the educationalist, preverbal and nonverbal children are immediately drawn into the emotional culture.

Their gestures, cries, vocalizations, and actions call out to their caregivers. As parents, siblings, and strangers respond, infants become partners in the give and take of human relationships . . . These reciprocal relationships, formed and grounded in interactive episodes, are the nexus of socialization (Leavitt 1995, p. 4).

Some aspects of the interrelational aspect of the construction of social values has gone by the names including symbolic interactionism (Blumer 1969), the social construction of reality (Berger 1967), emotional literacy (Weare 2004), etc. In all, there appears to be a growing awareness that emotions and socialization and the communicative body are linked in ways we are beginning to be able to explicitly define and explore, and this study applies these processes to the classroom and learning. Again, this study has shown how these processes are obscured at times by the linguistic bias in theory and research. However, visual, aural and kinesic channels are integrated in social and emotional processes in ways we have begun to be able to ‘measure’ through deconstructive technologies such as film and sound spectrographs. Applying these to

the learning environment effectively means that the ‘unfinished project of modernity’, communication theory will re-theorize the social world beyond linguistic bias and the differences engendered by words alone.

Non-linguistic attunement – presented in both gestures and words – are social codes and moral domains of feeling and action necessary for learning (Gilligan 1988; Turner 1997). Emotions and emotional relationships are contextual, created social fields as two subjectivities interact. “They are processual . . . grounded in both time and place” (Power 1986, p. 261). By combining these interpretations, the nonverbal basis for the emotions by which a social group attunes itself to itself is both rooted in history and experience.

Sanctioning

In addition to attunement, non-linguistic social relations also constitute sanctions. “Both positive and negative sanctions are essential to viable group structures . . . Without sanctions, conformity and cooperation are not possible among symbol using organisms” (Turner 1997, p. 215). What Robin Leavitt calls regulatory norms are made possible by the sanctioning or limiting emotions: fear and its offspring: shame and guilt and jealousy and worry and panic, these negative emotions keep the individual from bolting from the social group, as these are part of the negative emotional patterns giving a social group cohesion. These are the looks and distancing gestures at the source of the uneasy conscience which can be seen as so essential to productive social life.

In many educational settings, emotional culture is regulatory and suppresses negative emotions. “Children are taught to deny their feelings and suppress their emotional expressions” (Leavitt 1995, p. 10). While I don’t want to venture too far down this road, I do acknowledge the work on emotional culture and the nonverbal expression of attunement and sanctioning in early childhood care (Noddings 1984). The ethics of care make the distinction between the negative and positive sanctions problematic; negative sanctioning is connected to anger and fear, and, for someone like Turner, may be less effective in the long run than positive sanctioning in generating social conformity. Viable families and communities would seemingly be drawn together more easily and readily through the power of positive emotional sanctions.

Moral Coding

A third reason Turner proposes for the centrality of non-linguistic expression of emotions in social organization is in moral coding. “Those codes critical for maintenance of the group . . . always moral and laden with emotion” (Turner 1997, p. 221). Most of us can sympathize with this position, though the word “moral” has become a political football as human society moves toward efficiency and inclusiveness. Many things that were considered immoral in even our recent past are being accepted. Moral Conformity with the social group – whether that is with regard to hating the Other or welcoming the Other -- brings rewards; by extension, moral disregard for the group has consequences. The happiness generated by conformity often takes the form of what we might call the proscriptive emotions (Gilligan 1988).

As we see, a literature has begun to grow around the issue of ‘First Languages’ in early childhood education. These ‘First Languages’ can be seen to correspond to some theoretical constructs such as Freud’s unconscious (Freud 1915), Kristeva’s ‘Chora’ (Kristeva 1980), Damasio’s ‘feeling brain’ (Damasio 2003) . Whatever language we use to imagine these ‘unreachable’, episodic layers of subjectivity, educational research has begun to explore mimetic, non-verbal and pre-verbal expressions of positive and negative reciprocity within social fields as a way to address how “the experiences and feelings of childhood endure” (Bowman 1989, p. 450). In exploring issues such as positive and negative reciprocity, emotional engagement or disengagement, the experience of connection or disorder (Sartre 1939/62; Trevarthen 1979; Denzin 1984; Leavitt 1995), the lion’s share of this research focuses on early childhood experience. (As a PhD student, I encountered difficulty in designing a study by which I might view these processes through the student’s perspective.) In any case, I would like to suggest that these experiences apply to learning processes at other ages as well. In this vignette, I would like to suggest that emotional, empathic, mimetic processes are not relegated to childhood alone – that the linguistic colonization of the kinesic channels is not total -- but continue throughout our lives. Non-linguistic, ‘emotional culture’ is not the sole province of childhood, but endures in a variety of social and aesthetic activities throughout our lives, and remains at the center of learning and defines the role of the teacher.

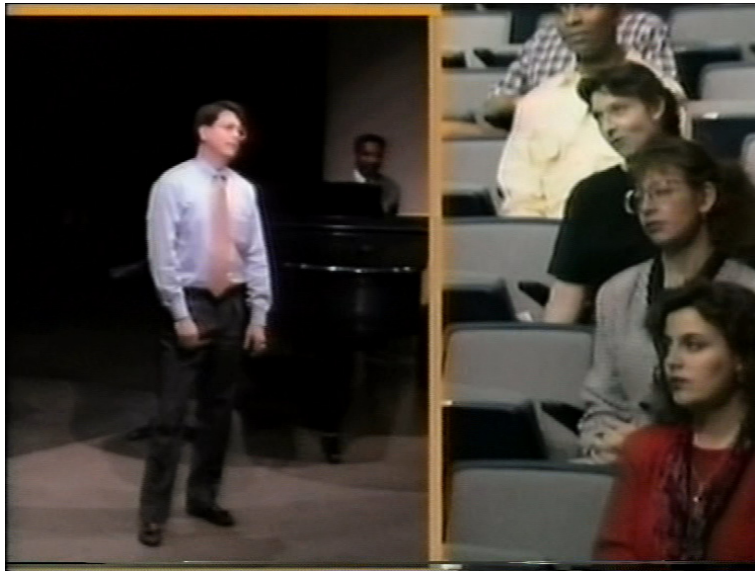
Method

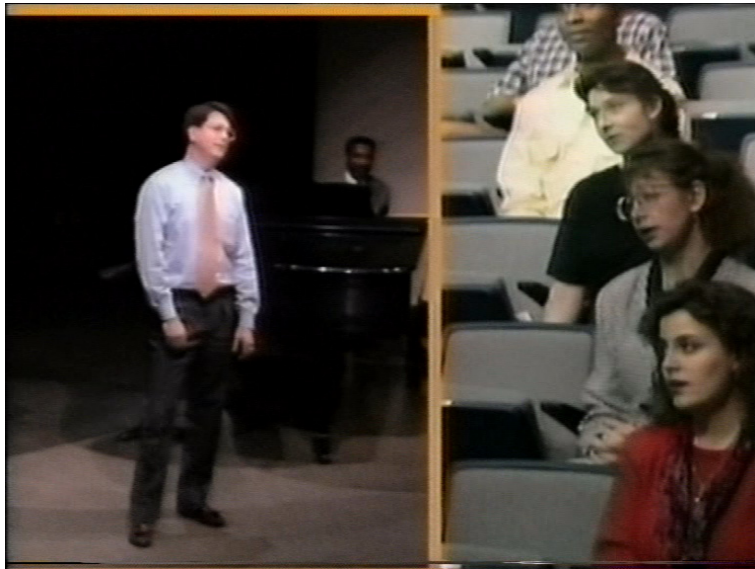
In 1994, Rodney Eichenberger and Andrea Thomas produced a video in which they outlined their findings linking the visual, the aural and the kinetic in conduction of choral singing. Their experimental method was to work with three different choral groups: one rehearsed, one semi-rehearsed, and one un-rehearsed. The two Florida State University professors, Eichenberger and Thomas presented five (confederate) conductors to the three choral groups. The conductors had been instructed in a gestural approach.



The Five Conductors and Requested Postures (Eichenberger 1994).

What Eichenberger and Thomas had surmised over their many years of conduction and choir work is that a choir (or orchestra) will “sufficiently empathize with the posture of each conductor to create a different tone” (Eichenberger 1994). By posture, Eichenberger meant the cast and curve of the body, facial expression, the movement of the hands, and shape of the mouth. Their one hour program offers fairly convincing evidence that – regardless of age or musical experience – the manner and quality of the posture and face of the conductors plays a major role in shaping the sound the chorus produced. The sound of the choir was not only shaped by the conductors’ physical stance, but often the choir would mimic the facial characteristics and bodily displays of the conductor as well. Consider this sequence:







Above: A photographic sequence in which the non-linguistic relationship between the conductor and the choir is so immediate that a conductor can change the size and shape of the choir note during the length of a single note “As they (the conductor) slowly changed their posture during the length of the note, the shape and weight of the note changed as well” (Eichenberger 1994).

Eichenberger and Thomas found this empathic response is not restricted to the body’s posture. In the following example, by changing the shape of her mouth during instruction, a female instructor changes the shape and weight of the musical phrase produced by the choir:



Above: Changing the note of the choir with facial expression (Eichenberger 1994).

Eichenberger and Thomas' experiment with the three choirs and five conductors explores the links between the visual, aural and kinesic systems of learning and communication; the size and weight of gesture has influence of the quality of the music produced by the group well.

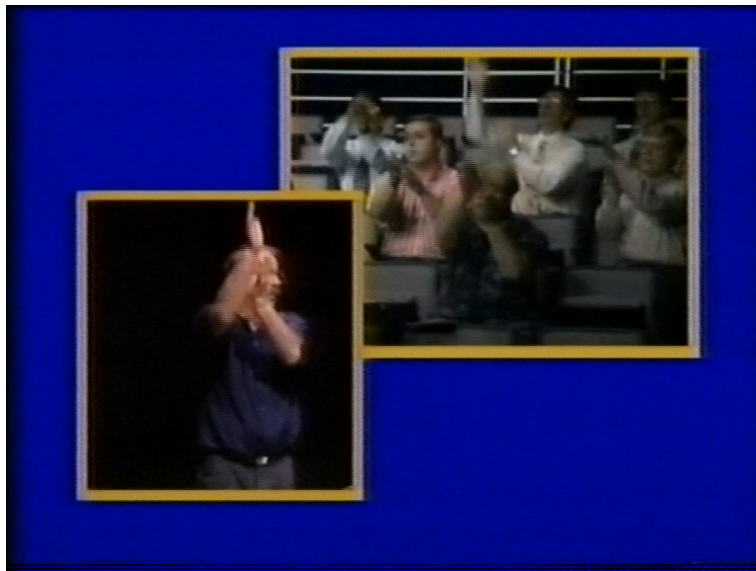
Rounded, soft, light gesture will produce a similar quality in the sound of the choir. Large, sharper, heavier gestures will also create a common meaning between conductor and choir. The two professors also showed that mixed messages from the conductor, such as requesting a soft sound while using a large, heavy gesture, created confusion in the orchestra and their sound. This empathic sensitivity could also be charted in something as refined as tension in the forearm of the conductor:

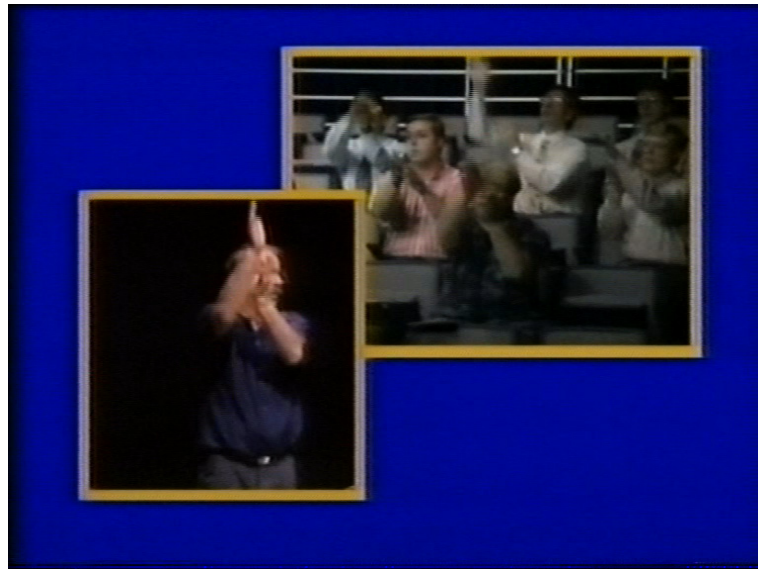
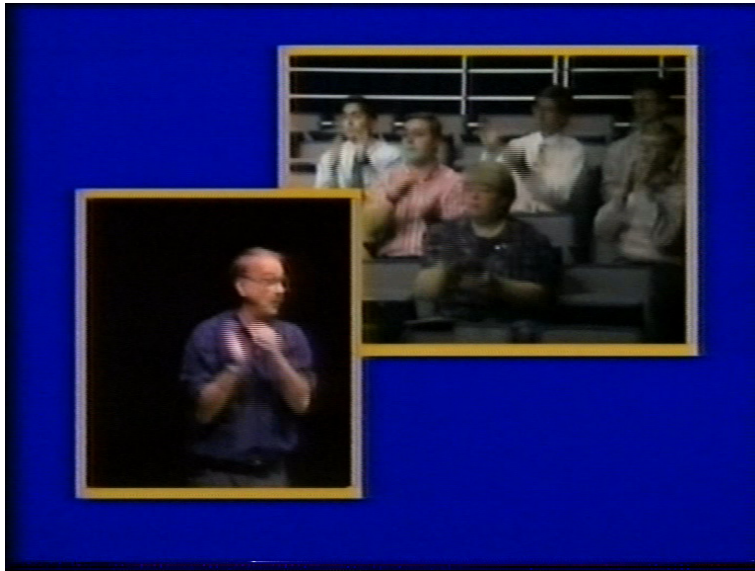
The degree of tension in the arm affects the weight of the musical phrase as well. Release the tension and the tone is freer. Increase tension in the forearm, and there is more tendency to translate tension into the whole body of music (Eichenberger 1994)

Up until this experiment in 1994, there has been no appropriate teaching model to emulate with respect to the empathic, non-linguistic relationship between, say, a class leader and their student body, in this case a choir. The literature in the field of non-linguistic attunement – of the links between the aural, visual and kinesic – had begun to be legitimated in a number of fields, both

related and unrelated to education. In evolutionary sociology, early childhood educational theory, we have begun to piece together and elaborate on the somatic and kinetic channels of the body's learning. The combination of cognitive science, social science, and educational theory present us with a moment in time where we are able to 'know' that a class makes spontaneous physical communicative values in response to the facial expression, hand gesture and posture of a teacher. With Eichenberger and Thomas, we find the entire body is a conducting gesture and draws a sympathetic result. And while we might have a vocabulary for this understanding in musical fields of choral conduction, the impoverished vocabulary for non-linguistic (emotional, empathic) processes in mainstream educational theory and teacher training limits thought and transformative practices. As in the analogy that began this chapter, the student, teacher and parent in that scenario do not have a language for addressing the disordered, empathic relationship between the teacher and the student.

Eichenberger and Thomas suggest that conduction of a choir is akin to sign language; the use of gestures can have a common meaning. While the authors do not advocate a 'right and wrong' way to conduct a choir, they do provide a vocabulary for understanding how the size and weight and rhythm of bodily gestures will influence the size and weight and rhythm of the musical production of the choir.





Above: Rodney Eichenberger engages the chorus. By varying the quality of the movement, with no linguistic codes at all, the musical phrase changes. Clapping in various positions relative to the body, Eichenberger shows the choir how they respond to gesture in song (Eichenberger 1994)



Above: Francis Crick Conducting (Crick 1993)

Conclusion

At the present time, no aspect of consciousness can be scientifically demonstrated in the sense that, say, atoms or particles can. (Crick 1994; Searle 2002). This is one of the key theoretical dilemmas of our times. John Searle (Searle 2002), Antonio Damasio (Damasio 1994), Merlin Donald (Donald 2001), Francis Crick (Crick 1994), Patricia Churchland (Churchland and Churchland 1998) have begun the slow work of building the neural correlates of consciousness into a working model, and some principled guesses about consciousness are beginning to enjoy a consensus. It appears we can allow that an individual is a conscious state who exhibits certain features, one of these is intentionality: our conscious states are directed intentionally toward the natural world. Consciousness might be understood as nature a phenomenological experience of an individual in time and in an intentional relation to an objective world; this relationship to the

world involves some aspect of memory and is closely associated with attention and imagination. The neurological firings that produce emotions are mental content that attempt to relate to and represent the world in an intentional and attentive and imaginative way. This process of intentionality can happen non-linguistically and can be at the center of socialization and some aspects of learning and acquiring the codes necessary for further learning.

This primary, intentional, nonverbal state is shaped by the exchange of social meanings and symbols, what Donald calls the ‘cultural matrix of consciousness’, and this process of creation and re-creation of the self by a cultural or social or familial group is not a static affair. The child can be held and fed and clothed and loved; the child can be dropped, ignored, have its emotional firings repressed. The point is that this mutual influencing is not only at the very root of our individual beings, but the creative tension between culture and the individual, a social field filled with both uncertainty and status quos. And this is our conundrum. How can we identify something as ‘a part of nature’ if it is a moving field between us? If each time we come in contact, we engage each other’s nature, and bring into existence the energies of social values, energies that are new or renewed in each instance of contact, how do we picture this?

The natural sciences, which have dominated inquiry in to human life for the past century, are confounded by something that cannot be ‘brought into existence’ (Donald 2001). When we talk about the nature of social, educational life, we are talking about fluid intangibles which our individual natures are able to join together and engage in generative and transformative acts such as the creation of institutions or the rearrangement of the environment or the creation of something like a house or a tea cup. This co-creation of possibility is one reason why the ‘computer’ model of consciousness may not be adequate to explain the other astonishing acts of cognitive life.

From the point of view of this study, significant, empathic, non-linguistic responses between a teacher and student are among these astonishing acts. As we’ve begun to see from our historical and theoretical investigation, and as we see in the examples above, somatic and kinetic channels of the human mind are not ‘intellectual’ activities in the sense of being linked with linguistic or reflexive practices. As Professor Eichenberger points out, “For numerous conductors, talking is the least efficient tool” (Eichenberger 1994). The linguistic and rational orders of learning shaped by language and lists might not efficiently convey the social, empathic integrations

between teacher and student, leader and follower, conductor and choir. Facial expressions, gestures, and bodily postures dramatize, shape, and either shrink or expand the social field between the I and the Thou (Buber 1958). This interrelationship is nonverbal, temporal, oscillating, a moving to and fro, subject to disorder and abuse and interruption as well as connection, imagination and desire. These knowledges are in the best instances about care, loyalty, attunement to and sanctioning of the social group; they are functions of a complexity of neural architectures involving aural, kinetic, and visual and somatic systems through which we construct ourselves and allow for the Other. While not happening at the present time, teachers instructed in the social values constructed by the communicative body might have more resources to draw on as they face the myriad tasks of classroom work.

Sources of the Communicative Body

Chapter 8: Eight Propositions for a New Logic

- (i) The non-linguistic modalities of the communicative body are involved in communication, learning, and are sources of individual and social identity. These modalities are not 'natural objects', but are social processes at work with internal structures of consciousness best understood in the context of their use and expression. Attempts to unify or reduce the laws and functions of the epistemological body might contaminate the knowledge with social and political power. Rather, understanding social contexts and empathic responses that form the common ground between us allows the body to enter lived experience as material discourse.

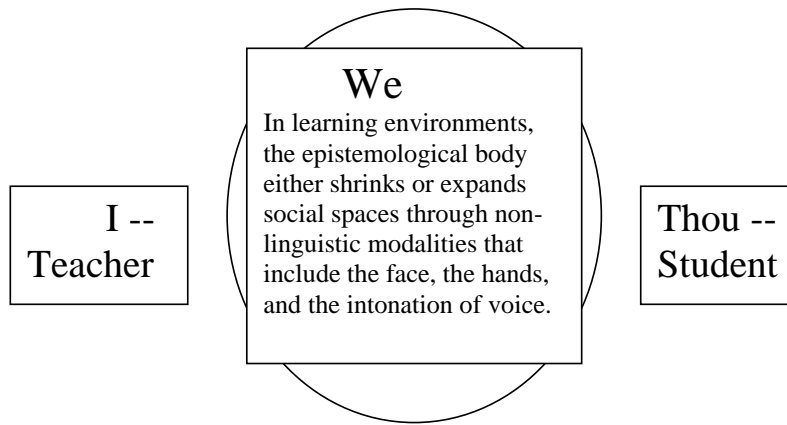
While it has historically been difficult to separate the internal structures of perception, sensation, cognition, and instinct, scientific attempts to quantify non-linguistic modalities are imaginable. Let us for a moment imagine a machine that can measure the common ground between us according to laws of attraction and repulsion. The machine (let us call it Synthesis4) could be wired to two brains to measure the electromagnetic alpha and beta waves of the brains during functioning MRIs. On a scale of one through ten, the level of a student and teacher's attractiveness or repulsion to one another might be measuring and charted. We could chart these numbers in relation to intonation, facial expression, gesture, and olfaction, creating a 'readable' measure, as an ARTScore (attraction/repulsion test score).

Once we have that number, we could then follow students throughout their lives and make assumptions, generalizations, or categories based on what happens later in the lives of the students measured. Low ARTS children (low attractiveness scores) might be shown to end up in low paying jobs, struggle with addictions, and social maladies. Children facing disadvantages, such as minorities or students with physical impairments, would show a greater drop off between ARTScores and achievements, indicating that the welts of experience dull a child's natural ability. Children from high social classes will have high ARTScores and be shown

capable of maintaining a contented and fully realized, productive life. Genetically-modified students would be able to not only score high on ARTS, but able to nullify the courser emotions and exceed in whatever conditions life presented to them. Astutely aware of their bodily functions and how they change in relation to other people and environments, genetically modified students will be celebrated by Ray Kurzweil and Gregory Stocker as the last men at the end of history and the beginning of the age of synthesis. Human 2.0.

However scientifically and empirically we arrange and categorize the data about the epistemological body, the danger is that we continue to obscure the material reality of lived experience. In the above scenario, these scores and categories themselves are generated by researchers in a particular social (experimental) context, one that has faith in quantitative, technological research. Those contexts could have been changed or altered based on compassionate or rational choice, or clear assessment of the environment in which their original passing on of information takes place. In other words, data driven studies of the epistemological body—outcome based, empirical studies which re-create efforts to articulate unifying or reductive principles and laws—might simply recreate the process by which human society has submerged and/or obscured how the body coordinates perceptive experience into social values. Reifying the metaphor of the epistemological body into numbers and technologic schemas would further alienate us from the knowledge of the body as the actual experience of shared perceptions and cooperative experience.

At the same time, the difficulty with qualifying the immense number of working parts in the non-linguistic modalities of the epistemological body should not deter us from recognizing that these modalities are centrally engaged in communication, learning, and social identification. The new logic that arises from the acceptance that there are internal structures of the body that communicate and learn outside of the figurative significance of words can be understood as lived experience of the perceiving body in a living world. This study concludes that we visualize those internal structures as metaphors, such as the common ground between us, as a living zone of reciprocity in which we anticipate what cannot be expected.



Historical research and observations have provided this study with qualitative, ‘readable’ phenomena that provide evidence for the warranted assertion that the connection between memory and experience is linked somatically as well as phonetically, that the face and hands are channels of communication “deeply integrated with other cognitive capacities” (Roth 2001, p. 365). Congenitally blind individuals use gestures and facial expressions when they talk (Goldin-Meadow 1998). Congenitally deaf individuals have been shown to be able to engage short term memory more readily through the movement of their hands than the comprehension of words, indicating that past conceptions of short term memory might have been formulated on the ‘audio centrality’ of the teachers and scientists (Gazzaniga and Ledoux 1978; Shand 1982; Ashcraft 2006). These and other studies indicate that the face and hands are involved in both interpersonal (social) and intrapersonal (individual) learning and not only communication.

Film work on newborn babies and their mothers, “revealed harmonious or synchronous organisations of change between body motion and speech in both intro-individual and interactional behavior” (Condon 1966, p. 338). Trevarthen’s photographic work showed cultural cooperation develops in the first moments of life. Kinesic, rhythmic patterns form between the parent’s vocal pitch, stress, and length variations with infants’ blinking patterns and physical

movements. In this way I argue that the deep, syntactic structures posited by Chomsky can be seen as material processes of the body-mind. Deep structures are established in the first moments of life when “a consistent harmony between speech and body motions suggests a highly integrated organism” (Condon 1966, p. 345). By blinking and moving, the infant has been shown to learn the syntactic rhythms of the language. By day fourteen, a child has established synchronous relationship with the prosody of their mother’s tongue: “Blending phone into syllable into word, his body moves in a series of configurations of change which are precisely correlated with that serial transformation of . . . speech” (Condon 1966, p. 339).

This study also argues that the work of Condon and Trevarthen (Trevarthen 1977; Trevarthen 1979) is made possible by the expansion of the rights of the deaf and the blind. For example, the idea that social actions such as messaging and learning happens outside of language would have been, in a way, impossible for a centrist like Descartes to assert. Aristotle’s perception that the “born deaf becomes senseless and incapable of reason” had not been challenged until 1500, when Girolamo Cardano became the first physician to assert that the deaf can reason (DSHP 2003). It will not be until 1755 that the first school for the visually or aurally impaired is founded, and it won’t be until 1935 that human rights of the deaf and blind are considered at all. As late as 1939, under the code name Aktion T4, a Nazi euthanasia program was instituted to eliminate ‘life unworthy of life’. This program slaughtered more than 100,000 deaf and blind individuals. In 1935 Dr. Alexis Carrel in the United States, a Nobel prize winner, in a book called *Man the Unknown*, suggested small euthanasia institutions equipped with gasses who would remove the mentally ill and physically challenged by killing them.

In contrast to brutal history, this study provides evidence that the expansion of the rights of the aurally and visually impaired has enhanced our understanding of the way in which the epistemological body orders experience, learns, and communicates outside of, astride and prior to the figurative significance of words. Again, whatever volitions, wishes, aspects of individual will, and powers of memory are involved in how we ‘hold’ the impressions of material expression, with respect to classroom practice, these are social processes of mutual influencing and the creation of empathic spaces between us. As this study found with Eichenberger (Eichenberger 1994), how a conductor expresses tension in the forearm will influence the tone of the acoustic note produced by a choir:

The degree of tension in the arm affects the weight of the musical phrase as well. Release the tension and the tone is freer. Increase tension in the forearm, and there is more tendency to translate tension into the whole body of music (Eichenberger 1994).

In working with both blind teachers and blind students to better understand the contours of the epistemological body, I came to further understand non-linguistic empathic response is an active process parallel to linguistic ordering of experience. One boy, who was both albino and blind, told me how the intonations of the voice—the rhythm and pitched vibration of spoken words—are his main guide for responding to, understanding, and experiencing connectedness with other people in a world:

If someone's voice doesn't show emotion, it's hard to hold a conversation with them. You feel like they're shoving you off. They could be saying anything, but you never know if the voice is cold, if it's being taken away from you. So you really rely on the voice having emotions. If the tone stays the same, if there's no emotion over time, everyone's scared (Fieldnotes March 3 2006).

Since the experience of connectedness is the foundation of the self (Gilligan 1988; Noddings 2003), this study further concludes that non-linguistic modalities of the epistemological body need to be explored with respect to the formation not only of individual, but of social identity. While it is difficult to fully surround what Marx called the 'cluster of relations' that make up social identity, a methodology of historical research, filmic data, interviews, and observations allowed me to surround the emergence of human understanding of the social fields on which the body participates in intersubjectivity, intentionality, emotionality, and the shrinking or expanding of social space. The new knowledge that the thinking body is involved in communication, learning, and identity has consequences for many areas of social life, the classroom in particular. At present, the interpretive values of facial expression, gesture, and intonation in learning environments suffer from inadequate vocabularies and receive next to no treatment in teacher training and curricula. As noted by Jane Orten, "You will sometimes find a little mention of intonation in teacher texts, but other than that nothing" (Fieldnotes 2006). In small social groups such as those found in classrooms, the complex, contextual ways in which the hands, face, and voice create communicative values of learning and identification provide a way to re-imagine the classroom as a 'truly human society'.

- (ii) The acceptance of body-thought as a modality of social interaction— as the speaking hand, as facial expression, as posture and thrill and lift of voice— is now posited by a wide body of evidence in philosophy, aesthetics, empiricism, and naturalism. Educational theory and teacher training has lagged behind these disciplines. Accepting the epistemological body as a principal of classroom communication and social learning may lead to transformational practices in pedagogy and teacher training.

We view the communicative body in ways that a) support language, b) replace language, c) express emotions, d) express interpersonal attitudes, e) conveys information about a person's inner life, f) elaborates human ceremony and ritual, g) can be used for propaganda, in politics and demonstrations, and h) is central to artistic expression (Argyle 1990). However, even if this study provides evidence for the above generalizations, and further concludes the epistemological body is engaged also in learning and identification, this would only have laid the ground work for research into how these modalities are used and misused in the classroom itself. This study agrees that one of the central aims of education is the creation of nurturing, just, and non-biased social spaces. In that regard, I am slightly pessimistic. A good many solutions and studies reviewed show that most public attention to teacher education widely skirts any practical consideration of the materiality of communication and social concepts such as cooperation, cohesion, belonging, care, and empathy. Some studies engage in discussions of race, class and gender as a way to suggest we might 'level the field' (Ginsburg 1988). Limited discourse is available that addresses directly the consideration of how non-linguistic factors create the social conditions by which higher orders of learning can function. Instead, many public findings make recommendations for teachers and their practices that break out along the lines of:

- 7) Develop more and earlier centralized testing to raise standards, i.e. to become more selective in screening who will and will not become a teacher;
- 8) Extend the training time required before trainee becomes a teacher;
- 9) Further stratify the educational workforce by creating a formal hierarchy of teacher positions and tie those positions to different kinds and amounts of teacher preparation;
- 10) Make the education of teachers intellectually, or at least academically, more challenging;
- 11) Restructure school organisations so that teachers have more autonomy and receive greater remuneration;
- 12) Increase classroom technology as central to learning.

Other studies reiterate these calls, and add a focus on class size, student—teacher ratios, retirement programs, and the like. These studies can be shown to continue to ignore or under-recognize what Montessori, Piaget, Vygotsky, Grumet, Pinar, Noddings, and others have demonstrated: knowledge is a social process, and requires that teachers—more importantly than issues of race, sex, and class—be capable creators of the social spaces that include care and compassion and enable the primary discourse of the home to take a place in the secondary discourses of social life. The link between how both student and teacher understand these social knowledges, how these are rooted in non-linguistic modes of learning and comprehending, suggests that one way to move forward—in addition to reflective practice—would be to integrate these forms of knowing into reflexive practice and self-study; that these interactive, intersubjective ‘fields’ can successfully be conveyed non-linguistically, and perhaps are more efficiently and convincingly conveyed nonverbally than verbally. Whatever the measure we use, this study finds in contemporary classrooms many non-linguistic factors at work in ways that might enhance our understanding of what makes a ‘good’ teacher.

In Grumet and Pinar and others’ work in the 1970s, through Noddings’ work in the 1990s, the restoration of nurturance in learning practice develops around ideas of reciprocity, and this has begun to be seen as involving the material experiences of the body. Grumet has written,

Parenting permits the ultimate reciprocity that pedagogy denies because it evolves in time. The history of the parent child relation is one of exchanged glances. The child will walk many miles and many many visits to understand the look under which he has stood. Even the adult who has grown beyond the frame of his parent’s look will pursue them, imploring them to see again . . . their perspective . . . Denied duration, pedagogy precludes such reciprocity. Denied duration, pedagogy precludes the long dialogue through which the child reappropriates that which he gave up in order to be a person in his parents’ eyes (Grumet 1988, p. 116)

These communicative spaces of the epistemological body—the gaze that links parent, child, and teacher—play vital roles in establishing social attitudes surrounding concepts of the family of social emotions—of territory, gender, care, loyalty, attention, and belonging. These social dimensions and attitudes might not be primarily engaged with the technologies of the neo-cortex, not only with language and numbers, but also take place in the somatic regions of the brain and neuronal architectures of the middle (feeling) brain. This study evidences that these areas construct learning experiences into certain social and emotional meanings without which

the higher orders of human reason might fail. These non-linguistic modalities are emotional, social, ancient, and slower in ways of knowing and feeling which can be seen to be central to reforming the goals of education in the 21st century.

- (iii) Some human knowledge predates language. The 20th century's 'linguistic turn' in philosophy and social theory has partly served to obscure non-linguistic modalities of learning and communication essential to the understanding of and recreation of social space. This study lends evidence to the argument that human communication and learning involves systems that have been in place longer than language, which the fossil record shows appeared between 50,000 and 70,000 B.C.E. With respect to the epistemological body, the argument can be made that certain cohesive and cooperative strategies of social groups are implicit, tacit, non-linguistic agreements; certain aspects of human culture can be imagined not as a 'revolution' based on the event of events (language) but a gradual accretion of social strategies which overcome the deficiencies of the individual in favor of an articulated common ground in which the individual is attuned to group (tribe, nation, family, school) codes.

Tattersall (Tattersall 1998), Ruhlen (Ruhlen), Chomsky (Chomsky 2003), Dawkins, (Dawkins 2004), Muhlhauser (Muhlhauser 2003), McBrearty and Brooks (McBrearty S 2000) and (Marshack 1985) consider the evolution of human capacities as directly involved with the origin of language. Culture and cooperation, farming and tool-making, imagination and creativity, some of the activities that I as a teacher attempt to engage in with students, these abilities appear to many as potentials opened by the development of linguistic representation. To summarize some of the above thinkers, we might say that consciousness is the 'product' of the brain, and the part of consciousness that is expressed by language can be seen as the elements of a 'revolution' that gave rise to human culture. Once we had language, what Tattersall calls "the event of events" (Tattersall 1998, p. 25), cultural potentials for farming, tool building, and symbolic representation follow from the 'infinite', creative, syntactic range of language interacting with cognitive principles such as attention and memory.



Above: A carved piece of African red ochre, circa 70,000 BCE (McBrearty S 2000). The earliest evidence we have of human society are imagistic representations of time, flow, process, and fertility. These are imagistic, cognized abstractions not referable to or derived from language (Marshack 1985; McBrearty S 2000).

I began to think a bit counter-intuitively on these issues for a number of reasons. I began to wonder if we might find evidence of new knowledge in the past. For instance, it is only over the last fifty years that we have come to find evidence of the earliest images of human culture, ones that demonstrate “complex, cognized abstractions not referable to or derived from language” (Marshack 1985, p. 27). Recent findings in archeology led to my formation of thesis questions that consider new knowledge to also be a part of the gathering of evidences from the past. I asked: Has anyone written a history of the meanings of facial expression? Why are the visual, communicative values of the human hands absent from teacher training? As a teacher, I knew instinctively that there are types of learning, knowing, and types of communication that continue to exist outside of language, and these abilities raised questions about ‘the other’ parts of consciousness. I began to investigate the categories we use for the communicative and acquisitive abilities that fall outside of language. Following from developments in semiotics, this study has considered whether ‘the linguistic turn’ in philosophy might have obscured aspects of our history and current educational practices that are essential to the creation of just, social spaces in which we teach and learn and experience connection.

Just as the bloodstream is from an earlier layer of evolution than the neo-cortex, our bodies represent many different parts, developed at various times of our evolutionary history. Our bodies are diachronic, so to speak, so we contain abilities from earlier times. We are changeable, not fixed. We evolve out of existing and latent potentials in forms. And these shared features between animal communication, ecological systems and human speech lead me up a hill where we find an evolutionary dilemma, one well-expressed by Elizabeth Bates:

The process of evolution is conservative, like the snail who we know is moving, but whose movement we can’t quite make out. Species take millions of years to develop ways of living with light and heat, gravity, space, cause and effect and the boundaries of events. The dilemma comes from the fact that human language is a relative newcomer to

natural selection, appearing perhaps 300,000 years ago or less. How did such a complex and exquisite and dominant system of communication evolve so rapidly? (Bates 1991, p. 29).

A short answer here might be that certain aspects language did not evolve so rapidly, that language ‘borrows’ categories of meaning from other networks of communication we can observe in nature. The longer answer involves finding evidence for the deep structures of non-linguistic communicative actions in our history and current practice, and that search became the subject of this study. Synapomorphy is a word from the dictionary of biology that defines a shared, derived character. By shared, we mean that at least two taxa possess this character. Derived indicates that it must be a character that appeared not long before the taxa that possess it. For example, humans and primates have an opposable thumb. This is a recent character and other mammals don’t have this character. Therefore, the presence of a single opposable digit on the hands in humans and primates is a synapomorphy. In treating certain functions of communication as examples of synapomorphy. We can make the argument that human language is a kind of functional digit that has shared properties with other communication networks in nature. In particular, I identified some of these characters and functions between Bonobos (*Pan paniscus*) and human society in Interfield 4, Part 3: Animal Communication and Sustaining Social Values.

Chomsky’s conceptions of a universal grammar might be used as an example of the linguistic bias we face when considering questions of knowledge acquisition, learning, and social communication in relation to body-thought. Chomskyan linguistics can be seen to be reconstruction of a grand narrative, a kind of holy grail for human nature which he will call syntactic structures (Lerer 1991). Through this renewal and reconfiguration of Saussure’s original concepts of *Langue* and *Parole*, and the renewal of the idea of ‘perfect forms’, Chomsky’s theory explains everything that follows: humanness, intelligence, culture, science. All is explained by language after Chomsky effectively pulls the study of meaning-making away from historical investigations in philology and into the laboratory. This study provides evidence to suggest that the 20th century’s linguistic turn obfuscates the historical forces and cultural synchronies with respect to syntactical structure. The linguistic turn in philosophy submerges critical knowledge about learning, social cohesion, and cooperation as functions of the epistemological body. The ‘local truths’ we find in aesthetics and the anomalies of teaching practices are seen here as points of alterity that allow community and culture a place in the

ontology of social relations and the formation of personal identity. These processes involve internal structures of the epistemological body that are emerging understandings of human culture, understandings made possible by advances in cognitive science, historical research, archeology and educational theory.

If we acknowledge that the epistemological body has been a submerged knowledge for at least the past four centuries, the years when textuality has been the dominant stabilizing mode of communication in human sciences, this might extend toward explaining why our bodies are often the site of political, social, and ecological contamination (Gough 2005). If cognition is always already linguistic, numeric, or technologic; if knowledge is ‘outside’ or external to the body itself, then within the simply binaries by which language works the body’s harmonies, synchronies, and organic processes are ‘not knowledge’. This study concludes, that as human society presses against the limits of its own biosphere, we are able to conceive of society as part of a living world, and this allows us to re-conceive nature, to acknowledge that animal kingdoms and forests also have ‘languages’ without which we would not survive. Awareness of the metaphorical weight of the epistemological body emancipates ‘high reason’ to consider organic layers of a longer history.

While language is an entirely new potential, and one truly unique in nature, privileging language as ‘totally unprecedented’ might have obscured or submerged the origins and communication of cooperative and cohesive social strategies which other species are capable of maintaining in various and unprecedented ways as well. These cooperative and cohesive social strategies might be crucial to learning environments, where recent theory has suggested that the experience of caring and a sense belonging are foundational to cognitive processes (Noddings 2003). This study concludes that there is evidence in history for our understanding of non-linguistic communication, learning, and social identification. These understandings involve tacit, implicit expressions of practice consciousness. In testing this thesis in current practices, we can qualitatively articulate and measure how the body’s non-linguistic modalities shrink or expand the spaces between us.



Above: Is that all right? A still from Kurt Lewin's 'Methods' (Vas 1969).

- (iv) Re-reading history in light of a productive metaphor (concept) such as 'the epistemological body' shows that the power of philosophical concepts can be used in historical and observational research to investigate submerged knowledge. Since some of the social values of the epistemological body fall outside the figurative significance of language, are often implicit, non-linguistic strategies of cohesion and cooperation, our knowledge about the epistemological body during the years when textuality stabilized meaning has been submerged in aesthetics, notably in portraiture and stagecraft, disciplines in which the body is a primary vehicle of (passionate) expression.

After years of study, a concept emerged which became the principal metaphor at the center of the historical and observational methods of this investigation. I have called this process alternatively the communicative body and the epistemological body. The need for two metaphors for body-thought has been necessitated by the fact that the kinesic, visual, and aural channels of the body both communicate and know. In conclusion, this study argues for these processes to be grouped under the phrase the epistemological body, a concept for the communicative and acquisitive channels of the body and mind structure emotionality and sociality in groups. In some ways, this methodology is one described by Hegel in 1821:

The truth is that in philosophical knowledge the necessity of a concept is the principal thing; and the process of its production is a result is its proof and deduction. Then, once its content has been shown in this way to be necessary on its own account, the second step is to look around for what corresponds to it in our ideas and language (Hegel 1952, p. 9).

Since the ‘principal thing’ here—the epistemological body—has yielded such a myriad of findings, both rich and curious, this study concludes that philosophical investigations of a concept remain a valid form of defining what is true. Whatever endowments and creative potentials language possesses, this study’s investigation of the metaphor, the epistemological body concludes that there are internal structures of mind and body not economically or efficiently surrounded by language: the visual, kinesic, aural modalities of learning and communication and identification are employed not only by the deaf, blind, and pantomimes. In the classroom, teachers and learners are constantly engaged in creating social spaces in and on which the ‘laws’ of attraction and repulsion create values that can fall outside of linguistic representation and meaning. Historically, that the epistemological body did not take root in philosophy after Descartes’ last book opened up a productive question: why are the communicative values of the body able to be sustained in aesthetics and not in philosophy or the foundational educational theory that begins in the 17th century?

One obvious answer is that ‘art’ is not one of the seven liberal arts laid out by the scholastic tradition. Grammar, rhetoric, logic, arithmetic, geometry, music, and astronomy do not provide us with a discipline to understand the expressive abilities of the face or hands. Body-thought’s place in both private and public emotions and feeling states has been only preserved over time in painting, stagecraft, and acting technique. This submersion of knowledge in aesthetics involves the ‘innumerable centers or cultures’ (Barthes 1977), innumerable maps of misreading, the anxieties and politics of what can be known and by whom. Today, we might argue that within educational practice, even the seven liberal arts are submerged to political agendas involving literacy, numeracy, and ‘career paths’. Nevertheless, the point is that not only Derrida, Foucault, Kristeva, and Barthes, but also Mill and Milton argued that delimiting the artist to ‘fully express’ him or herself rescues from the oblivion of history knowledge that otherwise slips from mainstream ways of seeing, thinking, and being. In the capitalist era, social values such as we find in facial expression need to be reified as a thing such as character,

beauty, or virtue (Ollman 1971). Social utility reifies the material world as principles, abstractions, and ‘universals’ capable of being understood by subjectivities within a particular, historical period. If physics, algebra, and philosophy, for example, have no place for the truths of the body, aesthetics is the ‘logical’ discipline in which the truth of the body’s knowledge can find expression. Charles Le Brun’s 1668 address—*A Method to Learn to Design the Passions*—builds on Descartes and Elizabeth’s system for the passions, and exists as one of the first attempts to organise a discourse around the communicative abilities of the human face. Le Brun argues passionate (non-linguistic) expression,

Is necessary, and enters into all the parts of painting. A piece cannot be perfect without expression: it is what stamps the true characters of every thing: it is by this we distinguish the nature of Bodies; that figures seem to have motion; and that whatever is feigned appear to be real (Le Brun 1734, p. 12).

Notably in painting and stagecraft, aesthetics opens up possibilities for truths of the epistemological body to be carried forward into the Enlightenment, however submerged or marginalized. After Le Brun, this tradition comes in the form of stagecraft manuals from Austin (1806), Betterton (1712). And after Charles Bell had further refined the way in which we understand the musculature of the face, Jelgerhuis (1827) delivers what is still considered an exemplary text on the communicative body in the field of stagecraft. Jelgerhuis developed *The Art of Gesture* around nine ‘themes’ that have import for representation of passions and body-thought. Gesture becomes a highly articulate art, with a vocabulary and ‘dictionary’ known to a wide community of directors and performers throughout Europe and the Americas. This art is often referred to as *l’eloquence du corps*. In scientific discourse, this knowledge becomes known as physiognomy.

Physiognomy as a European science can be seen to link the understanding of body-thought not only with aesthetics but to early formations of nation-states and mercantile capitalism. Le Brun’s position as ‘first painter’ of the king is not a trivial matter. National character, identity, and the emerging nation state are not simply a matter of a single language or linguistic codes aided by the rise of the printing press. While monolingual cultures and the dissemination of standard knowledges purveyed by books play a role in this process, the study of how and what

the face expressed, the expressive features of the head and face represent social and ethnographic values which may have been backgrounded to the force of literary history, but are nonetheless as influential as, say, dialect in founding national boundaries of identity. In other words, in addition to cultural abstractions such as beauty, virtue, and character, nationalism and capitalism give physiognomy a reason to leave the parlors of philosophy. In effect, the artists, physiognomists and phrenologists of the 17th and 18th century contribute to establishing the categories of nation and race in order to provide evidence for a metaphysics which “speak of the entry into full self-realization of a unitary subject known as the people” (Eagleton, Jameson et al. 1990, p. 28). ‘The People’ are not only defined by the language and dialect they speak, not only by the books they read, or the style of dress, but now by the reflexes of a ‘language’ written on their face and hands. This same metaphysics also required the ethnic and personal characteristics of a particular culture to be identifiable. And while it has been argued that nationalism was driven, for the most part, by the printing press, the establishment of dialect, and monolingual culture, this study has found evidence to suggest that visual-symbol-culture is never far off: ‘The body of Christ’ becomes the beautiful French nose or English curly lock, and “then are we induced to love it” (Le Brun 1734, p. 16). This ‘minority report’ of the submerged knowledge of the epistemological body as it weaves and threads its way through the Enlightenment is made possible by the truth value of the originating concept itself.



Above: A Still from Kurt Lewin's Methods (Vas 1969).

- (v) Because religion has often been the institution that attempts to reify social values such as caring, compassion and generosity, it makes deductive sense that religion will be involved in our investigation of the metaphor of the epistemological body.

If the body is engaged with the non-linguistic presentation of social values such as generosity, care for, and loyalty to a social group, it follows that religion will be involved in our historical findings because religion has been a human institution attempting to reify and order these values. In fact, the Latin root of the word religion can be interpreted to mean 'ultimate care' (Adler 1961). We found evidence for submersion of the truths of the epistemological body in religious thought in the figure of John Caspar Lavater.

"All error originates in the deficiencies of language," Lavater wrote, "the want of peculiar characteristic signs" (Lavater, Holloway et al. 1789, v. 1, p. 151). This kind of extreme dualism is perhaps typical of religious thought. Nevertheless, the recognition of the deficiencies of language required a new semiotics in order to measure both the inner aspects of 'man' and the outer designs of God. Lavater ambitiously proposes a way of 'reading' natural patterns, divine meanings, and moral purpose as values of the body. Physiognomy

signifies to exercise the feelings, anchor sensibility, acquire the power of imparting, of delineating, characterizing and depicting what we feel and observe. It signifies to search, limit, and class the visible signs of the invisible powers (Lavater, Holloway et al. 1789, v. 1, p. 38).

The biblical cadences and rhetorical sway of Lavater's language sought to marry a reformed theology with the study of nature and 'discovered' syntactic, divine resonances on the face. The caring, generous, and compassionate values of the body could be surrounded by Christian thought even as late as 1771. And while this study views Lavater's physiognomy as regressive, the 'high reason' philosophers who follow Descartes can also be said to submerge the body in 'critiques of pure reason', theories of moral sentiments, and visions of 'historical materialism'. In other words, Smith, Kant, Hume, Hegel, and, to a lesser extent, Leibniz and Spinoza, might also be seen to be involved in the marginalization of the communicative body as much as

Lavater's conceptual scheme to reintroduce 'the cross' as a fitting metaphor for the values of caring, generosity, and compassion which the epistemological body is capable of sustaining.

- (vi) The metaphorical 'technology' of the epistemological body has yielded some results in imagining the neurological architectures at work in the creation of social spaces as emotional knowledge. These results suggest that various cultures have employed the epistemological body to express generosity, caring for and loyalty to the group, 'innate sympathy', and emotionality involved with the implicit expression of social codes. Academic and philosophical communities have yet to successfully define an epistemology of emotions. This study introduces the possibility that the social emotions necessary for compassionate choice are effectively expressed as non-linguistic messages and codes. On the face of it, coming as it does in the golden age of linguistics, this hypothesis might be met with disbelief. Nevertheless, the evidence here suggests that generosity, care for and loyalty to the group, the 'innate sympathies' are cohesive strategies formed through non-linguistic modalities of communication, learning, and individual and social connectedness.

Despite a long history of emotional discourses and discourses about emotions in philosophy, we currently hear the cry that no consistent theory or understanding of emotions and the way they function in a socio-cultural way has emerged, or has only recently begun to emerge. As Megan Boler sees it,

Emotion has most often been theorized as private, natural, and individual experience that is essentially located in the individual. Despite the increasing embrace of emotions over the last two decades as "socially constructed," the view of emotion as individualized is deeply embedded in our language and conceptual frameworks. As a result, I fear we still do not have a theory of emotions that adequately understands them as collaboratively constructed terrain (Boler 1999, p. 5).

While religious traditions have troped emotional discourses into discourse on, say, suffering for the sake of social order, the separation of reason and emotion can be seen as a critical misstep, beginning in late Hellenistic thought. Recent work by Nussbaum (Nussbaum 2001), Damasio (Damasio 1994), Weare (Weare 2004), Boler (Boler 1999), Hillman (Hillman 1960), Turner (Turner 1997), and Lutz (Lutz and Abu-Lughod 1990) aims to 'correct' philosophy's mistrust of emotions and imagine internal structures as an emotional foundation to reason and rationality. In the past, philosophy's association of emotion with human frailty, particularly in the male, allows for identities outside the epistemological body. If the emotions are 'weak', 'unclean', 'irrational', then the emotions that attend feelings for 'women', for 'homosexual', for 'terrorist', for Other,

can be displaced with objects of disgust— soulless, swamp, animal, and slime. Since it would be intolerable to apply these objects to ourselves, since this would identify our weakness with ‘what will die’ (Nussbaum 2001), the emotional situation calls for the destruction or the demeaning of the other. The flight of philosophy from the oscillation of the emotions might be seen as critical to understanding some social, political, and religious plagues within contemporary society: Here we might discuss the violence of religious racism and sexism, and how the ‘uncontrollable’ primary emotions turn shame to disgust, fear to rage, and give rise to discourses that associate certain groups—women, homosexuals, Jews and Arabs—with “foulness. The soldier-slaves in Abu Gharaib would have been in a similar emotional framework as those in a Nazi concentration camp.

The exclusionary dichotomy between feeling (soul, nonverbal, emotional, intimate, uncertain) and knowing (truth, law, reason, certainty) is not easily resolved. However, these difficulties might be approachable by seeing—as Damasio, Nussbaum, and Boler do—emotions on two plains, in two dimensions. One emotional field is made up of the primary emotions, which are part of a circuitry of regulatory activity, what William James called the ‘courser emotions’. In contrast, there are the secondary emotions, or what Nussbaum calls ‘the social emotions’. The primary emotions are linked to biological survival: anger, disgust, fear, joy, sadness, and surprise. These biologic states start out developmentally as hardwired displays linked to perception, sensation, and memory. These emotions do not require agency, and they are irrational in the sense that they negate ‘choice’ because choice would mean delay, and delay would mean, say, the snake bites our leg or the car runs us over. As Giddens would have it, they are self-organised; they are not involved in processes which involve human agency. They are autopoietic. Seeing these primary emotions as separate from issues of agency and free will allows us to move past reactive ideas that see the emotions being disordered or irrational. At present, I will not get into a discussion about values, as example, and the place of an emotion like disgust plays in human law. For now I will again simply point out that shame and disgust are seen as primary emotions that inhibit compassion and sympathy. They are the emotions that drive racism and, in extreme cases, genocide.

The place of emotions and feelings in rational life becomes clearer when we contrast this biological, emotional repertoire with a second dimension of emotional life, what I will call

along with Nussbaum ‘the social emotions’: These include pity/anger, empathy/intolerance, envy/emulation, forgiveness/indignation, and friendship/neighborliness—the repertoire of feeling-states and phenomena which engage us in our cultural, social, and political worlds. They are the emotions required by public institutions like schools, courts of law, and other civic and morally constituted communities. These emotions differ from the self-organised emotions in that they involve agency. Their function is not preset: a person can go through life without learning these states, or they may learn some of them only partially. The point is that these social emotions are transformable energies, transformed through and by human agency, and at least partly form the basis for cultural evolution– for law, aesthetic experience, and sustained relations. They are organised not by self but by familial, educational, and cultural institutions in specific historical milieu.

Two Dimensional Conception of Emotion

| Emotions of Biological Survival (Self-Organised) | Social Emotions (An Ecology of Human Agency) |
|---|---|
| Anger | Pity |
| Disgust | Empathy |
| Fear | Intolerance |
| Joy | Envy |
| Sadness | Emulation |
| Surprise | Forgiveness |
| | Indignation |

Damasio’s work in *Descartes Error* (1994) and *Looking for Spinoza* (2003) offers fairly convincing evidence that the circuits of our cognitive, image making representations (high reason) must ‘descend’ to come into balance with the machinery of the primary emotions (reactive states) as well as the socially constructed emotional states; otherwise our rational selves are lost. To illustrate how emotions act as a guidance system for rationality, Damasio

uses the example of the sociopath: a sociopath is someone who can steal, rape, murder, and lie without feeling shame.

The threshold at which their emotions kick in, when they do, is so high that they appear unflappable, and are, from their self reports, unfeeling and uncaring. . . . they are in fact yet another example of a pathological state in which a decline in rationality is accompanied by diminution or absence of feelings (Damasio 1994, p. 178).

For most of us, living in a 'healthy state in a healthy culture', we note the somatic markers, the body feeling tones acquired by experience that guide us with regard to social conventions, ethical rules, and moral codes. If there is damage to our ability to feel, to avoid or prefer a given social situation, the neural systems that govern reason and decision making can no longer filter the good from the bad, the hot from the cold, the social from the malign. A sociopath does not feel these extremes and so does without shame. For the rest of us, we come to the place where rationality and emotion are embodied, linked, symbiotic; one cannot do without the other.

The broader moral world, founded on pity, and called for by, among many others, Nussbaum, Rawls, Kant, and Rousseau comes about by understanding how the mature, social mind develops away from the self-organizing, reactive principles of infancy and youth and toward the socially-organised emotions that make empathic joy and compassionate choice possible. I recognize that this can be accused of being the 'hopeful monster's' view of human life. One can easily argue that human society, being what it is, pity (compassion) is not the basic, social emotion, and that the opposite is more often true. Since human society has a tendency towards violence, living together peacefully is anything but the natural order we have followed. Reason, good will, and compassion are not evidenced enough to make the claim, and constant rivalries endanger existing orders, threaten social norms, and wipe out cultures.

Yet hope is not as impotent here as we might imagine: While theories of violence are not widespread, we can argue that racism and sexism, and the violence and torture they inspire, are inversions of compassion. This inversion of compassion into violence has inspired a good deal of tragic art, from Medea to Bigga Thomas. New identities are formed by mutual aggressions and suddenly shifting into the unanimous violence of all against the one (the scapegoat mechanism.) Rene Girard (1973) sees this as the moment when human groups turn from the option of peaceable, compassionate culture, and become the vengeful, prideful human

groups attempting to create their own sacred vessel by slaughter and/or isolation of “the Other”. Violence then grows out of a strange rivalry, what Girard calls mimesis, a kind of eroticization or adoration for what the other is. We elevate the other so we might see them as something beyond human, something extra-biological, and that, in turn, will justify their destruction. Seen in this way, racism, sexism, sadism, the war on terror, etc, are inversions of pity: the slighted black man, who should pity the biased or banal racist, strikes out at him; the racist white man desires, even adores on some level the black man he despises; the desire culminates in violence, even if the victim is chosen at random.

This kind of emotional inversion generally happens in extreme threats to survival, as in plagues and invasion. We see this rise of religious and/or political persecution, when human society becomes restricted. As noted by many, when survival is the only thing that counts, moral considerations are obliterated. The foundations of personhood are themselves crushed, and the ability to choose is destroyed. In the absence of the moral personality, the energies of the social emotions are turned to the task of destroying society and driving out the other (for fear of his or her humanity). Men and women who fall in with the uncompassionate are no longer able to recognize their social needs, and so all the more project evil onto their adversary.

Aristotle leads us early on to a critical understanding that the mature individual comes through experience and recognition to base their reasoning and judging on emotional foundations. These foundations include not only the self-organising emotions of survival and self-interest, but include the social emotions, ones that allow us to attune ourselves to the aspects of social life that bring us toward the higher valuations—kindness, pity, friendship, recognition of our brotherhood and sisterhood with those who experience both good fortune and bad. Through the tradition of Augustine, Rousseau, Hume, Smith, Tocqueville, up through Rawls and Nussbaum, the idea that our self-organizing principles, which guarantee our self-interest, are balanced by principles of social nature, and these include pity, compassion, and sympathy. As Smith begins *The Theory of Moral Sentiments*;

How selfish soever man may be supposed, there are evidently some principles in his nature, which interest him in the fortune of others and render their happiness necessary to him, though he derives nothing from it except the pleasure of seeing it. Of this kind is pity or compassion, the motion which we feel for the misery of others, when we either see it, or are made to conceive it in a very lively manner. . . . For this sentiment, like all

the other original passions of human nature, is by no means confined to the virtuous and humane, though they perhaps may feel it with the most exquisite sensibility. The greatest ruffian, the most hardened violator of the laws of society, is not altogether without it. (Smith, p. 9).

Smith's 'original passions' might be seen as akin to the original position of John Rawls. For Rawls' "justice as fairness" hypothetically posits that all people, in a state of maturity and equality, will accept two principles of justice to be true: 1) these principles provide that every person should have access to liberty in a way that maximizes liberty for all, and 2) inequalities in wealth and power exist only in so far as these inequalities benefit the worse-off members of society. While we can agree hypothetically with, say, Rawls' position, what is curious is that Rawls, along with a long tradition of philosophers, ignores how we raise children from a state of selfish, object attachment to being capable of sympathetic understanding of mutual support, justice, and truth. The difficulty with the tradition of the compassionate is that these passions and positions develop not in our mature states, but out of our immature states.

In childhood, in the years during which we pass through the stages of formation, our original position is one based on survival and object-attachment to our closest kin. We are selfish in the sense that we do not understand, in a Kantian sense, what it means to be engaged in a social environment. We are not mature, clearly, because we do not stand in responsible relation to others, and so we have not developed our empathic or sympathetic abilities. Part of the appeals of the uncompassionate, of Plato, Nietzsche, Medea, and Hamlet, part of our confusion of the place the social emotions play in our communicative attempts toward reason and social interaction, is that philosophy assumes a state of maturity. Educational theorist like Montessori, Piaget, and Vygotsky have long called for the recognition that knowledge is social. The overriding concern we have with both the tradition of the compassionate, as well as the uncompassionate, is not the possibility of truth and justice being the foundations of society. The issue is that social mechanisms are required to create learners who would be able to accept these 'mature' positions. This knowledge is not 'born of reason' or part of a superior or soulful realm. The end of metaphysics requires us to see that we 'teach' individuals to resist the inversion of compassion into violence when the world becomes instable. We teach those who would reject violence against 'the Other'. This means creating a philosophical culture capable of teaching compassionate choice. This means philosophy has to theorize itself, as it were, in an 'immature' position!

As Levinas argued, we cannot come in contact with another's pain without either recognition or denial. In recognition is understanding and knowledge. In denial is an extension and re-creation of the pain and further violence. The tradition of the compassionate does not necessarily argue that compassion is 'natural' or a part of 'human nature'. It is born out of desiring not to deny, of learning feeling for our neighbor. And while compassion itself may be seen as flawed, while pity may in some cases be culpable with cruelty, the absence of these emotions is intolerable for a rational social order just as its absence is intolerable for an individual life. Nussbaum makes this point quite clearly:

Compassion will be a valuable social motive only if it is equipped with an adequate theory of the world of basic goods, only if it is equipped with an adequate understanding of agency and fault, and only if it is equipped with a suitably broad account of the people who should be the object of an agent's concern, distant as well as close. . . . Compassion embodies correct evaluations and directs our concern to all who share with us a common humanity. Learned in childhood relationships, these connections are important in making morality discerning rather than obtuse. . . . We should not attempt to produce a good society through the motive of compassion alone, since it is only within the limits of reason, so to speak, that compassion proves worthwhile rather than quirky and unreliable. On the other hand, so constrained, it provides an extremely important bridge from the child's narrow and self-referential concerns to a broader moral world (Nussbaum 2001, p. 399).

Allowing emotions into theoretical, political, and educational discussions has begun. This study finds evidence that emotionality is constituted, at least in part, by non-linguistic modalities of the epistemological body. The social emotions begin with the material perception of the child for the person next to him or her. The broader moral world, founded on ideas of civility and the good, called for by the communitarians such as Rousseau, Kant, Rawls, Nussbaum, Taylor, and Connolly becomes clearer in part by understanding that the mature, social mind develops away from the self-organizing, reactive principles of infancy and youth and toward the socially-organised emotions that make possible empathic joy and compassionate choice. This study provides both evidence and theory for the understanding that these public emotions—the ideas of caring, compassion, nurturance, and mutual creation of social spaces—are founded on and through the epistemological body. The listening face or the smiling face might in fact constitute these values more readily and more comprehensively within social fields than, say, even a poem. As long as this knowledge remains overlooked, we risk impoverished vocabularies and

inadequate practices in the construction of compassionate and caring societies and communities of teaching and learning practices.

Learning environments can become places where we do not overlook how non-linguistic modalities form micro-cultures of gesture oriented on a teacher's signing. These micro-cultures, social spaces and common grounds, are formed by the significant, empathic responses we found in Eichenberger (Eichenberger 1994). Up until 1994, there is no adequate model or vocabulary for the epistemological body in educational settings. When it does appear, it is a one hour, poorly-produced video on choral conducting. Given that social values like empathic response, caring, and compassion are critical for just social actions, we might attempt to make this knowledge less marginalized and more accessible to the young teachers who arrive in classrooms well stocked with political and legal realities in mind, but who do not have even a basic vocabulary for kinesics and intonation and the more than one thousand expressions the face is capable of making. This might be done in three ways: 1) Professional Development Workshops. As I've discussed many times with my supervisors and other scholars, some of the vast amounts of material that did not make it into this thesis, I believe constitute a semester course that might be called 'Gesture for Teachers'. 2) Educational Activities. I have begun to compile a manual on educational activities that elucidates the communicative body and the spaces it creates. 3) Educational Textbooks and Policies. The new knowledge that the social, foundational values such as caring and compassion are constituted by the communicative modalities of the epistemological body can be shown to have benefits not only in learning environments but in the constitution of the wider social environment. Since educational policy, educational texts, and teacher training have little or no recognition of these knowledges, our task may be to bring this new knowledge to the public so that social and political philosophy might be 'opened' to the new understanding of how the materiality of the body links us to the organic world, to history, to the social values of care and compassion, and to our futures as learners.

- (vii) Constructive inquiry into the nature of our world defines categories such as mechanical, electromagnetic, chemical, biologic, technological, etc. . . . Attempting to unify the world into intelligible theories within shifting social domains requires we define and investigate 'local truths' of our conceptual metaphor -- the epistemological body. Investigating local truths not as unifying or reductive 'laws', but as reflections of implicit consciousness of social practice

allows us to not be defeated by complexity, but to define practical means for creating just, social spaces that anticipate a social future.

A semiotic history is difficult to write for a number of reasons. The history of facial expression has not been written because faces are only preserved aesthetically. The study of faces in paintings and sculpture is not only the study of communication, but also about composition, class structures, and the luck of what has been preserved. By resisting the need to reconfigure grand narratives and ‘universals’, one important finding of this investigation is that the local truths of cultural history can retrieve submerged knowledges as a way to keep scientific programs and methodologies open to possibility. While deductive science has completed marvelous and soaring projects, it is possibility itself that remains inaccessible to human invention. For example, we know the amount of possible combinations of the tabs of the keyboard I am typing on is roughly fifty to the sixty-fifth power. There are ten to the fiftieth power atoms on earth, and ten to the fifty-sixtieth power atoms in the solar system. The number of possible combinations of these keys or these atoms is ‘unthinkably immense’ (Cromer 1997). And while we might at some point generate enough computing power to ‘draw’ the mathematical equations for these combinations, (a distant possibility), the human and natural world are places of uncountable varieties and possibilities. Much work remains before dismantling the constructions of ‘universals’ and grand narratives that still separate us from each other and obscure other possibilities for learning, communication, and sustainability. Should the communicative values of the epistemological body allow us to escape the constrictions and violence of, say, race, gender, nationality, ethnicity, beauty, and virtue, those who follow face the challenge not to let this knowledge (and our bodies) be contaminated again by political, social, and production methods.

This study’s method has been to embrace the inductive method as a way to consider the evidence with respect to ‘local truths’. The face, hands, and voice possess communicative values within the social context of their expression. In order to make this claim, observations within classroom settings provide some evidence that gestural communication is bound by the social context in which it is expressed. In other words, by understanding the communicative values of the body as part of a temporal, social flux, social relations can emerge which allow for principled, ethical spaces in which the voice, face, and recognition of the Other is made possible in material reality and not the principles of a particular cultural or scientific code. As one

example, the ‘universal’ meanings that contemporary research such as Ekman and Freisen’s (Ekman 2003) has given to the human smile do not necessarily apply in the classroom of Teacher B, our master teacher. In Interfield 3, Part 3: Vignette: On Smiling, Teacher B used the smile in a way that could only be understood in the context of its use, having value in relation to the expectations and consequences of classroom activity.

From historical investigation, it became clear that cultural and social values such as generosity, care for, and loyalty to the social group have been associated with the epistemological body. While these values had been submerged in aesthetics and the marginalized science of physiognomy, in Interfield 1, in Part 3, I began to investigate this idea with respect to the contemporary classroom.



Above: A veteran teacher employs a ‘blended expression’. The upper face conveys discernment and doubt, while the lower face borders on a slight smile (Fieldnotes January 29, 2006)

One of the evidences for this study’s claim that body-thought remaining a ‘submerged knowledge’ in educational settings would be an inadequate or impoverished vocabulary for how

interrelational spaces and interpersonal reason are created external to semantic values—though gestures, the face, and the rise and fall of the voice. If we are to begin to dialogue across the differences of, say, nationality and race, we need to consider how social values—values which previously defined tribe, nation, race, gender, etc—are comprehended and communicated in a contemporary social group. Again, any ‘loss for words’ might not be due to a conspiracy of silence, overt repression, or suppression of knowledge. Power-knowledge arrangements grow and evolve through the accumulation of ‘new’ interpretations of signs and the systematized efforts of generations. In *Interfield 1, Part 3: The Listening Face*, I considered a ‘local truth’: how a novice teacher uses non-linguistic modalities in the classroom and how she herself understands those modalities. In fact, in her training and in her reflection on watching the film of her performance, the teacher was unable to identify the social values conveyed by her face in classroom exercises. She had no language to assess how her face contributed to interpersonal spaces. Fresh out of a teacher training program in a major western university, this novice teacher did not have any vocabulary for the way in which her body created social spaces in the classroom. In addition to the fact that no other teacher interviewed during my three years of study had any instruction in these matters, this study concludes that there is a need for explicit and overt instruction in these processes. Learning environments are places wherein the kinesic and emotional values of the epistemological body can be recognized as essential, parallel processes in cognitive development. In addition to whatever other functions we facilitate in learning, the social and emotional values born by the body can be classed as (motional) events crucial to processes of group cohesion and cooperation.

Noting again the association of sympathy with body-thought, the interplay between what is voluntary and involuntary, what is intentional and what is instinctive, becomes the ground for debate over what has been called the ‘biological origins of culture’. While some evolutionary biologist, psychologists, and linguists insist that humans are defined by language and language’s ability to “make” the worlds of culture and technological invention, our facial expressions indicate advanced social organisation around the ability to communicate inner states without words. What is more, this ability would have a much earlier genesis than language (Wundt 1973; Kendon 2004). In fact, some of our closest relatives—the Bonobos—have the exact same muscular structure in their faces capable of a great many variations of expression. If “human” means “language”, we also have to allow for the fact that the organic layers of our minds and

bodies include a propensity for emotional exchange that can be seen to predate spoken language. This vestigial, ‘feeling brain’ and how it interacts with the neo-cortex is a subject of a good deal of contemporary, cognitive and neurological science (Damasio 2003; Johnson 2005).

This study argues that we should develop these research projects in relation to education and in particular to develop ways to ‘measure’ the common ground between a teacher and a student. For example, the emotional and social qualities of the voice—the communicative values of stress patterns, rhythms, and personal qualities of the sound of the voice—are fields of research and useful knowledge that need elaboration in contemporary education discourse for clear reasons. On the one hand, the line between home and school has increasingly become blurred. The expansion of the role of schools and the creation of the industry of child care implies that what used to be ‘work of the heart’ is now partly the work of the teacher. Voice as both metaphor for social group and the synchronizer of body-tones might both become categories for self-study and consciousness raising. Grumet writes, “Drawn from the body and associated with gender, voice splinters the fiction of an androgynous speaker as we hear rhythms, relations, sounds, stories, and style that we identify as male and female”(Grumet 1990, p. 278). It would be difficult to put an exact date on when this shift in content of the voice took place. However, when many women in western societies sought work outside the home in the 1960s, early childhood socialization became a discipline of educational theory. Many schools now have child care and after school care programs. The line between the informal and intimate socialization of home and the formal learning of the classroom has thinned. This study argues that new needs can be seen to require teacher training to involve self-study and reflexive practice that includes knowledge of the communicate values—both social and emotional—of the body itself. Voice as content is a concept of identity. Vocalic quality is a non-segmental, non-linguistic feature of communication where volume, tempo, register, weight, etc., play a role in conveying and exhibiting emotional and personal characteristics that can either expand or shrink the social field between speaker and hearer (Brazil 1997). In *Interfield 4: 20th Century: The Rise of Social Contexts: Part 1. Vignette: The school of the teacher’s voice*, I argued that the way in which intonation and frequency are understood, hearer by hearer, is an immeasurable variable involving upbringing, socio-economic class, life experience, etc... However, exploring the systems of intonation as they have been developed by Halliday (Halliday 1967), Crystal (Crystal 1975), Quirk (Quirk 1972), Brazil, Coulthard and John, and Brazil (Brazil 1975; Brazil 1980; Brazil 1997) might become a playful way in which teachers gain awareness of our ability to

synchronize or de-synchronize, to shrink or expand the common ground between ourselves and the Other, i.e. “I have a space for my voice when you have a space for your voice”. Teaching then becomes not only about the object of curriculum, nor only about wonder, but about practicing the creation of social engagement through the harmonies and dis0-harmonies of rhythm, stress, pitch, etc. ‘Teaching’ becomes also about building vocabulary for the kinesic structures by which we try to harmonize with the patterns of the organic world. As an example, here is an exercise by which teachers might engage in creating meaning outside of language alone:

Exercise 1: The teacher creates a frontier horizon, a zone of proximal development (Vygotsky 1978) where productive learning involves anticipation, expectation, and an understanding that consequence will follow action. The following exercise emphasizes possible directions for new patterns for understanding expectations, anticipation, and consequence through tone of voice. The pitch, variety, and tone of voice are non-semiotic ways of communicating these states of the classroom. In this exercise, we will all be blindfolded. One member of the group will begin to express one of these classroom states based just on pitch, variety of tone, rhythm, and volume of the vocal sounds. Can the group, without eye contact and without touching, identify what ‘state’ the subject is trying to communicate? What other ways can we communicate expectation, anticipation, and consequence without words?



Above: Jo T. smiling during play Lady (Wagner 2003).

- (viii) Reading the history and practice of non-linguistic modalities of the epistemological body during an age when textuality remains the dominant media has raised theoretical contradictions. Marx maligned a solution to these problems as: “The resolution of these contradictions is possible only through practical means, only through the practical energy of human beings. This resolution is by no means, therefore, the task only of understanding, but is a real task of life, a task which philosophy was unable to accomplish precisely because it saw there a purely theoretical problem” (Marx (1844) 1961, p. 87).

It is curious that the word ‘values’ has played such an important role in this study’s textual presentation, as if proof and evidence for the body’s place in perception, attention, memory, thought, learning, and social communication will only be secure if I can show it has utility and value. We might conceive of the word ‘values’ as emblematic of the historical episteme (the research community) in which I am researching. In other words, as late capitalism reverts to cyclical crises, war, and economic determinism, the inner relations of regions of the body-mind with external conceptions—the clues by which we alert each other inside and outside of language to approval and disapproval—all have ‘meaning’ if they have ‘value’. It might be helpful to also imagine a time when relations between individuals and the natural world, as well

as relations between students and teachers, do not need to be valued, but can be manifest as communal consciousness of the ways in which we create, sustain, and care for one another. Whether or not this hope is achieved, this study has evidenced that visual, kinesic neurological architectures create social fields on which interrelational and intrarelatational synchrony and dis-synchrony occur. These harmonies and dis-harmonies are expressed linguistically and non-linguistically. What Descartes calls ‘the passion of the soul’ in 1649 and what Damasio calls ‘the feeling brain’ in 1994 involve emotional energies and social relations that correspond to both the higher orders of human reason and intersubjective processes through which the common ground that exists between us either shrinks or expands. As mass education passes out of its current historical phase of service to state and ‘modes of production’, as the textual ordering of conceptions such as nation, race, gender, and discipline shift to new sociologies and signs, the epistemological body will become an irreducible unit in the transformational educational practices of an emerging, sustainable, social, and productive order.

The 20th century has altered our understanding of human communication. The multiplying medias of the 20th century—cinema, video, audio recording or software, and pixilation—represent a transformation in the way human culture transcribes human thought and builds knowledge. We might suggest that this transitional movement is the emergence a new culture in the way Gramsci defines new culture: society is moving (slowly or quickly) through a transformation to a new ‘moral’ order, a ‘new intuition’ of life that means a new way of perceiving and representing reality (Gramsci and Rosengarten 1994; Cochran 2001) Foucault has laid the archeological methodology for much of our understanding of what these historical transitions entail. The transformation from a culture that held a God-centered view of the universe (medieval) to a culture marked by natural facts of science and humanities (modern) provided this study with one window through which we can see how the submerged knowledge of the epistemological body is ‘used’ by the hegemonic, intellectual structures of the two periods.

Many postwar studies attempt to separate or isolate the verbal from the nonverbal, but do so at the expense of seeing the fact that public communication is an intersubjective process of mutual influencing and shared systems of signs between two or more people. Not only early studies have neglected that the verbal and nonverbal are often used in a coordinated display. Ray

Birdwhistell, inventor of the words 'kinesic', wrote in 1967 that the term nonverbal communication is akin to 'noncardiac physiology'.

All of the emerging data seems to me to support the contention that linguistic and kinesics are infra-communicational systems. Only in their interrelationships with each other and with comparable systems from other sensory modalities is the emergent communication system achieved (Birdwhistell 1973, p. 71)

Over time, a discourse has emerged that agrees that verbal and nonverbal communication are not segregate, separate domains, but should be understood under broader terms like communication or face-to-face interaction. Adam Kendon (1977) stood along these lines when he argued that language study that focused only on language should be thought of as a special language theory, whereas communication study needs focus on both the visible and audible together:

Gesture and speech are available as two separate modes of representation and are coordinate because both are being guided by the same overall aim. That aim is to produce a pattern of action that will accomplish the representation of meaning (Kendon 1986, pp. 17-20).

This study suggests that Kendon's use of 'meaning' might not be broad enough, that the epistemological body is at work in establishing aesthetic, nationalist, organic, emotional, and social values that are not easily surrounded by linguistic constructions of the word 'meaning' as we currently use it. Nevertheless, if a resistance to classification schemes that separate verbal/nonverbal, vocal/non-vocal, etc, establishes that non-linguistic modalities of the epistemological body should not be studied as isolated phenomenon, but as a part of human communication processes that involve intentionality, social attunement, symbols, images, emotional content, etc., this has not always been advice closely followed. The microscopic examination of separate functions was in line with postwar trends in science when cameras, films, and instruments allowed us to look more closely at events (Mead 1969). Film, the 'dynamite of the tenth of a second', participated in moving science from an intuitive approach to an analytical one, and though postwar science may have dissected the subject too narrowly, setting up categorizations that are being dismantled, present calls for a theory of non-linguistic communication as have gone unheard, particularly in the field of education and the design of learning environments.

We ‘exist’, as Bernstein has argued, in the tension between modern and postmodern ways of thought (Bernstein 1990). In this tension between ‘epistemes’, Bernstein argues that the intellectual markets become flooded with empirical data, both supplanting and supporting contemporary theory. As much as the ‘little sciences’ within the study of non-linguistic communication have also been flooded with empirical data, none of these was more astute than David Efron’s 1941 study *Gesture and Environment*, which is the first scientific study to consider the effects of culture on non-linguistic modalities. It is of note for this study that Efron’s primary methodology was film and sketches. This visual data corroborates with the conclusions of this study. As we consider the sciences of 20th century, historical, scientific, and observational evidence support the contention that non-linguistic patterning of experience is an active, parallel system within the operation of human social communication. This system of communicative acts can play a vital role in establishing certain social codes surrounding concepts of the family of emotions, of generosity, compassion, territory, loyalty, sex selection, care, and group (family) cohesion. Learning is not engaged primarily with the technologies of the neo-cortex, not only with language and numbers, but also takes place in the somatic and kinetic regions of the brain and neuronal architectures of the middle and lower brains. These areas integrate body-thought and non-linguistic perception as social and emotional attitudes with the higher orders of human reason (syntax). Understanding the social field of the classroom as a place of intersubjectivity and collaborative construction of social values which work in tandem with linguistic, cognitive meanings, the learner and teacher move toward a world where the learning process is both word and gesture. Since one of the goals of this study is to provide a new orientation for a better understanding of how social values and the experience of connection are implicitly and explicitly informed by the communicative body, the tensions and ambivalences created by scientific searches for biological universals should not be ignored. In fact, teachers and students remain susceptible to some of the dangers of labeling in the conflation of, for example, ‘beauty’ with ‘intelligence’. These cultural determinants and cultural rituals are often influential in observer perceptions and the formation of expectations (Mehrabian 1972; Knapp and Hall 2001). Escaping from the (primitive) distortion of cultural abstractions such as intelligence, meaning, beauty, and expectation—abstractions we now know are linked to the body—is central to the future of teaching practice. These changes might also involve research communities escaping the residual scientific practice of searching for single explanations and universal causes. Beginning to observe and ‘read’ the common ground that

effectively surrounds the intersubjective spaces between us requires that the ‘principal thing’ of the epistemological body be taught, understood, misunderstood, read and misread, but most of all put into educational practice, and teacher training. Toward these ends, here is another one who came looking for the truth, and returned to life to practice these truths in an effort to give the universe of education a nudge.

Sources of the Communicative Body

Chapter 9. Recommendations Beyond Theory: Face, Voice, and Hands

Language is a technique of body and linguistic (especially phonologically) competency is a dimension of physical relations to the social world as it expresses itself in the individual. In learning, this bodily scheme is characteristic not of a social class or the system of phonological traits that characterize class pronunciation, but is an articulatory style part and parcel of learning styles that has become embodied and stands in linked relation with the usages of the body and of time that properly defines what we might call teachable knowledge. An adequate sociology of classroom communication presupposes that we theoretically move beyond phonological units and empirically restore the myriad of human practices, of which linguistic practices are but one figure, so as to unite structured systems of sociologically pertinent linguistic differences to similarly physically structured systems of social differences. In order to do this, the teaching of teachers might incorporate pedagogy for measuring the educational consequences of a teacher's face. Here is one recommendation:

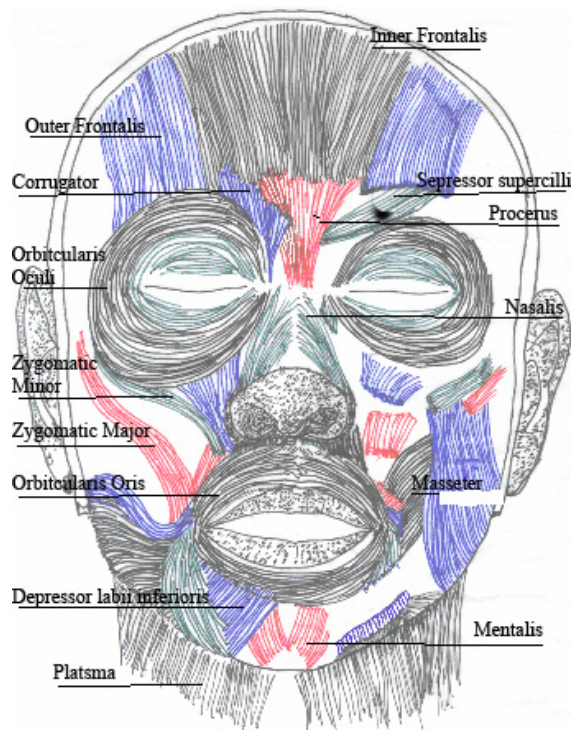
Evaluation of Teacher's Facial Expression: Scale:

| Consequence: | ATTENTIAONL ACTIVITY – interest / noninterest | Intensity Control – | Expectation : Positive / Negative | Emotional Display – Intentional / Unintentional |
|--------------------------|--|------------------------|---|--|
| Pleasant - unpleasant | | | | |
| | | | | |
| | | | | |
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The Face:

The face is the basis of an associative, visual communicative system throughout nature. There is some agreement that the human face is the most important body area and channel of communication, verbal and nonverbal. {Harper, 1978 #423} The 122 muscles of the face are unique in that – unlike other muscles in the body – the facial muscles insert directly into the skin such that the skin relays the muscles movements without the mediation of bone and bodily exertion. These facial muscles create the more than a thousand different facial appearances, both voluntary and involuntary. Some of these appearances and expressions convey direct and clear social and emotional messages, others are blended, compositional appearances in which the messages, internal states, interpersonal attitudes are less clear and otherwise can take place quite rapidly and changeably.

The speed with which the face can relay emotional and attitudinal information have placed it at the center of debate about how and which messages are related to survival, to social cohesion, and to what degree these expressions are culturally influenced. Regardless of this debates, it is essential that teachers, both current and future teachers be instructed I how the face communicates through its musculature.



ccci

Above: A still from Judith Vas' Methods (Vas, 1969).

The Voice and consequence positive: In the nonverbal expression of positive consequence, we have the merging of both the cognitive and the relational tasks of the classroom. For instance, when expectations are met, a teacher exhibiting nonverbal competence will convey a sense of positivity through the use pitch, tone, and frequency. There are three critical reasons for teachers and educators to understand the place of the voice in the learning and teaching arts and sciences.

4. There is a need to “enrich the comparative poverty of the language of the classroom. This enrichment is not only about vocabulary, topic or activities but crucially in terms of the role of speakers in relation to each other” (Brazil 1980, p. 128).
5. Intonation is not a function of linguistic meanings, grammar, or attitude conveyed by discourses, but “moment by moment assessment of the communicative value of each part of the utterance” (Brazil 1980, p. 128).
6. Intonation should be considered a part of the materials for language teachers. On this last point, this study would like to extend these materials to include all teachers, and especially the trainers of teachers.

For these reasons, the teachers of teachers might engage in measuring the voice in a myriad of ways. Here is one recommendation:

Evaluation of the vocal intentions of a teacher's voice: Scale:

| Consequence: | ATTENTIONAL | Intensity | Expectation : | Emotional |
|--------------------------|---|-----------|------------------------|---|
| Pleasant - unpleasant | ACTIVITY – interest / noninterest | Control – | Positive / Negative | Display – Intentional / Unintentional |
| | | | | |
| | | | | |
| | | | | |

The Hands and The Mythic Classroom:

In relation to cultural history, the weakness of literacy in the Middle Ages provides us with unique evidence: the forms and meanings of feudal society can be seen as expressed by gestures more than written records. This has brought about the moniker of the Middle Ages as a 'culture of gestures', '*une civilization du geste*'. The evidence comes to us from frescoes, pattern books, and handwritten manuscripts (themselves a type of gesture). In all, we come on an implication often not explored in contemporary research on nonverbal signs, what I will refer to here as mythic gesture. For example, in medieval art circles, certain gestures and facial expressions were 'standardized' by what are called model books or pattern books. These were books developed by artists for artists to convey certain canonical messages and postures. In medieval societies, pattern books or model books often provided an 'accurate' way of depicting the face and hands. Again, the historical evidence is scant, but pattern books might be seen as providing, as the above model book would indicate, an accuracy way as replicating and reiterating the myths of the social and political order.

A message in need of excessive repetition might be said to go beyond mere metaphoric meaning to a vital, necessary status as a cultural symbol that might be called myth. Since myth has been seen as a means of deep explanation or symbolic resonance for preliterate cultures, the suggestion that the hands can perform mythic tasks may not be a stretch. And while we might not be able to make too many generalizations about the meanings of gestures and facial expression as presented by pattern and model books, the knowledge of how visual figures of thought were disseminated may be enough to make this point: pattern books and frescoes provided the stylistic habits and technique to present mythic postures that explain the origins of the world, including the pieta, the saint, 'supplication', 'flagellation', etc. These patterns might be said to reiterate how visual media works in its time. The circulation and repetition of idealized images with particular meanings in the positions of hands and the expressions on faces indicates the nonverbal signs are critical to social instructions with regard to the 'worldview' of the time in which the signs appear.

In the same way, this study recommends further and extensive study of the hands of teachers. If the communicative body provides us with the foundations of new logic, using that logic in pursuit of the 'mythic classroom' enables us to imagine 'discovering' certain repeated gestures associated with learning.



Above: Francis Crick Conducting (Crick 1993)

The primary, intentional, nonverbal state of the self is shaped by the exchange of social meanings and symbols, what Donald calls the 'cultural matrix of consciousness', and this process of creation and re-creation of the self by the gestures of a cultural or social or familial group is not a static affair. The child can be held and fed and clothed and loved; the child can be dropped, ignored, have its emotional firings repressed. The point is that this mutual influencing is not only at the very root of our individual beings, but the creative tension between culture and the individual, a social field filled with both uncertainty and status quos. And this is our conundrum. How can we identity something as 'a part of nature' if it is a moving field between

us? If each time we come in contact, we engage each other's nature, and bring into existence the energies of social values, energies that are new or renewed in each instance of contact, how do we picture this?

Study of the face, the intonation of the voice and the hands in the classroom setting will provide us with a science of mutual space. The natural sciences, which have dominated inquiry in human life for the past century, are confounded by something that cannot be 'brought into existence' (Donald 2001). When we talk about the nature of social, educational life, we are talking about fluid intangibles which our individual natures are able to join together and engage in generative and transformative acts such as the creation of institutions or the rearrangement of the environment or the creation of something like a house or a tea cup. This co-creation of possibility is one reason why the 'computer' model of consciousness may not be adequate to explain the other astonishing acts of cognitive life.

From the point of view of this study, significant, empathic, non-linguistic responses between a teacher and student are astonishing acts of mutual co-creation. As we've begun to see from our historical and theoretical investigation, and as we see in the examples above, somatic and kinetic channels of the human mind are not 'intellectual' activities in the sense of being linked with linguistic or reflexive practices. As Professor Eichenberger points out, talking and words are the least efficient tool. The linguistic and rational orders of learning shaped by language and lists might not efficiently convey the social, empathic integrations between teacher and student, leader and follower, conductor and choir. Facial expressions, vocal landscapes, gestures, and bodily postures dramatize, shape, and either shrink or expand the social field between the I and the Thou. This interrelationship is nonverbal, temporal, oscillating, a moving to and fro, subject to disorder and abuse and interruption as well as connection, imagination and desire. These knowledges are in the best instances about care, loyalty, attunement to and sanctioning of the social group; they are functions of a complexity of neural architectures involving aural, kinetic, and visual and somatic systems through which we construct ourselves and allow for the Other. While not happening at the present time, teachers instructed in the social values constructed by the communicative body might have more resources to draw on as they face the myriad tasks of classroom work. This study recommends that ample funding and resources be provided to further the study of the facial, vocal and hand gestures associated with the creation of the learning spaces.

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